# A Demonstration

ON

# CONSTRICTIONS AND OCCLUSIONS OF THE ALIMENTARY TRACT OF CONGENITAL OR OBSCURE ORIGIN

GIVEN AT THE ROYAL COLLEGE OF SURGEONS, ENGLAND,

BY

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CONSERVATOR OF THE MUSEUM.

THE statistical list which I subjoin gives not only the subject-matter of this demonstration, but shows to what extent congenital occlusions and constrictions of the alimentary tract are represented by preparations in the various metropolitan medical museums. Under column A are grouped the specimens in the Museum of the Royal College of Surgeons, England, and under column B those in the museums of the medical schools attached to the various hospitals in London, to the authorities of which I am greatly indebted for the many privileges they have extended to me.

*List of Specimens showing Constrictions and Occlusions of the Alimentary Tract of Congenital or Obscure Origin in the Medical Museums of London.*

| | A. | B. | Total. |
|---|---|---|---|
| I. Non-cicatricial stenosis of the upper oesophageal orifice | 4 | 5 | 9 |
| II. Stenosis of the lower oesophageal orifice, with dilatation of the oesophagus | 2 | 4 | 6 |
| III. Congenital stenosis of the mid-oesophagus ... | 0 | 2 | 2 |
| IV. Malformation of the tracheo-oesophageal septum | 5 | 9 | 14 |
| V. Hour-glass constriction of the stomach ... | 4 | 10 | 14 |
| VI. Hypertrophic stenosis of the pylorus ... ... | 2 | 12 | 14 |
| VII. Congenital occlusion of the duodenum... ... | 1 | 6 | 7 |
| VIII. Congenital occlusions and constrictions of the jejunum and ileum (not including those associated with a Meckel's diverticulum) | 6 | 9 | 15 |
| IX. Congenital occlusion at the ileo-caecal junction | 1 | 0 | 1 |
| X. Congenital occlusion of the colon... ... ... | 0 | 4 | 4 |
| | 29 | 57 | 86 |

### *Non-cicatricial Stricture at the Commencement of the Oesophagus.*

In the Museum of the Royal College of Surgeons, England, there are four specimens, two of which belong to the original Hunterian collection, showing a marked narrowing at the commencement of the oesophagus. Such strictures are usually regarded as the result of a severe and localized inflammation, but in the specimens I here illustrate there is no clear evidence of cicatrization (Fig. 1). The condition and such clinical histories as are available point to a disturbance in the normal mechanism of the oesophagus. In the Museum of St. George's Hospital School there are three specimens of a similar nature, and in that of Charing Cross Hospital there are two more, making nine in all. The condition was described and investigated by Sir Everard Home.[1] The specimen (No. 2295) was presented to the College Museum by him, and is shown in Fig. 1. From various observations in health and disease, he concluded that the upper part of the oesophagus acted as a sphincter—he compares it to the constrictor of the urethra—and that under certain pathological conditions the contraction of the upper sphincter of the oesophagus may become permanent It is not my present purpose to whitewash the reputation of Sir Everard Home, yet I feel that it is a misfortune to medical science that the obloquy which has justly overtaken his moral reputation, on account of the destruction of Hunter's manuscripts, should have been extended to his own writings. The lectures which he delivered at this college, just a century ago, contain many observations and discoveries probably inspired by Hunter, yet not made by Hunter, which deserve to be again brought into common knowledge. The existence of an upper oesophageal sphincter is one; the presence of a functional mid-gastric sphincter is another. Like the sphincter at the pylorus, that at the upper end of the oesophagus is continually in action, except during the initial act of swallowing. It is a well-known fact that, on passing a stomach tube, a temporary resistance is encountered when the point of the instrument enters the oesophagus, but beyond this point, as Drs. Souttar and Thompson observed when passing their gastroscope, the rest of the oesophagus, until the cardiac orifice is reached, is flaccid and open. The resistance offered at the commencement of the oesophagus is due to the tonicity of the sphincter which guards the upper orifice. In the specimens which illustrate stenosis of the upper oesophageal orifice the condition seen in eight of the specimens is not comparable to a hypertrophic but to a fibrous stenosis of the pylorus. The circular muscle is not hypertrophied but

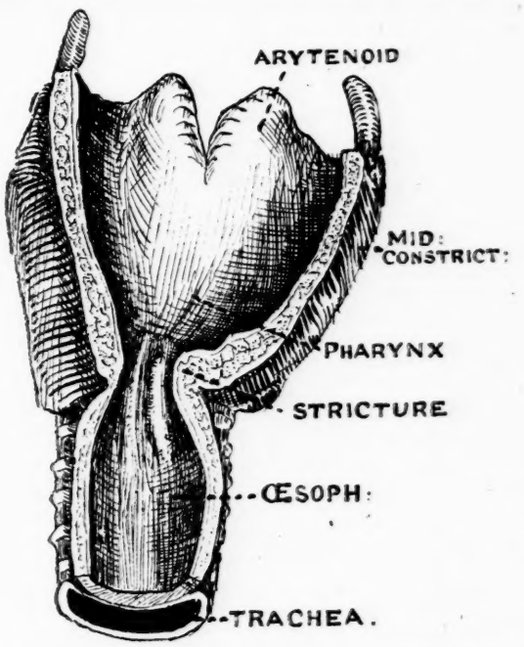


Fig. 1.—Drawing of the preparation (No. 2295) presented by Sir Everard Home, Bart., to the Museum of the Royal College of Surgeons, England, to illustrate non-cicatricial constriction of its upper orifice).

atrophied, contracted and replaced by loose connective tissue. In one of the specimens there is a hypertrophy of the musculature.

### *Cicatricial Contraction of the Upper Oesophageal Orifice.*

I am also able to show a specimen of cicatricial stenosis at the upper aperture of the oesophagus, the result of the inflammation set up by the swallowing of sulphuric acid. I noted four similar specimens in the museums of the London medical schools; in all the corrosive action was limited to or affected chiefly the upper inch of the oesophagus, a result that is explained by the sphincter-like action of the muscle of this part. A description of this sphincter will be given in my next demonstration, in connexion with diverticula of the pharynx.

### *Stenosis of the Lower Oesophageal Orifice and Dilatation of the Oesophagus.*

In the two specimens of "idiopathic" dilatation of the oesophagus in the college museum and in four others to be seen in the museums of metropolitan medical schools the commencement and termination of the oesophagus have not shared in the general dilatation. In this pathological dilatation the terminal or sphincteric parts of the oesophagus have not shared. Indeed Lerche[2] and several others[3] have ascribed the dilatation of the oesophagus to a vitiated action of the lower or cardiac sphincter. Dr. A. F. Hertz[4] has given a minute account of this sphincter so far

as it can be observed in transilluminations of the body during the act of swallowing bismuth-laden food.

W. H. E. Ehlers[5] has described the condition of hypertrophy and dilatation of the oesophagus in connexion with hypertrophic stenosis of the pylorus; all the evidence at present at our disposal indicates that dilatation and hypertrophy of the oesophagus is due to a pathological action and hypertrophy of the lower oesophageal sphincter. In one specimen I observed that the submucous coat was enormously increased, and that the circular muscular coat, although greatly hypertrophied, showed a peculiar degeneration in its fibres. In preparation No. 2321 this sphincter is greatly hypertrophied.

*Congenital Stenosis of the Mid-part of the Oesophagus.*

In newly-born children, that part of the oesophagus which lies in the posterior mediastinum and extends from the bifurcation of the trachea to within 1 or 2 cm. of the diaphragm may be reduced to a fibrous imperforate cord. The illustration given here (Fig. 2) is taken from a specimen in the museum of the medical school of St. Thomas's Hospital; there is a similar specimen in the museum of the Middlesex Hospital School. The condition is allied to the abnormalities to be described in the next group, but a satisfactory explanation of this lesion has not yet been given. It is certainly associated with an elongation of the oesophagus which occurs during the development and growth of the lungs, and with the fact that in one stage of development (in human embryos of the second month) the oesophagus undergoes a temporary occlusion.[5a]

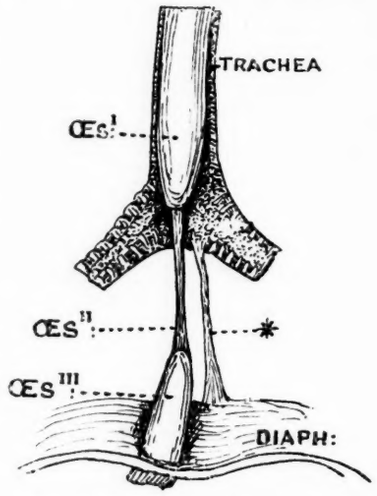


Fig. 2.—Congenital stenosis of the oesophagus in a newly-born child. Oes$^{I}$, the retrotracheal part of the oesophagus; Oes$^{II}$, the imperforate part; Oes$^{III}$, the supradiaphragmatic part; * muscular strand from the right bronchus to the diaphragm.

*Irregular Separation of the Trachea from the Oesophagus.*

Examples of this condition, usually reported under the title of atresia of the oesophagus, are not of uncommon occurrence. There are five examples in the college collection and nine in the museums of the metropolitan medical schools.

In all 14 specimens the arrangement of parts is remarkably similar; the condition shown in Fig. 3 may be regarded as typical. The upper part of the oesophagus ends blindly at a point some distance above the bifurcation of the trachea; the lower part of the oesophagus springs from the posterior wall of the trachea as a narrow tube, and gradually increases to its normal calibre as it approaches the diaphragm and stomach. The opening from the trachea to the lower part of the oesophagus in the specimens examined was situated somewhere in the posterior wall of the lower half of the trachea; in the majority the opening was at the junction of the upper three-fourths with the lower fourth. In 12 of the 14 specimens the fundus of the upper segment of the oesophagus overlapped the origin of the lower segment from the trachea, and there was usually a greater or less degree of union between the musculature of the two segments of the oesophagus and that of the trachea.

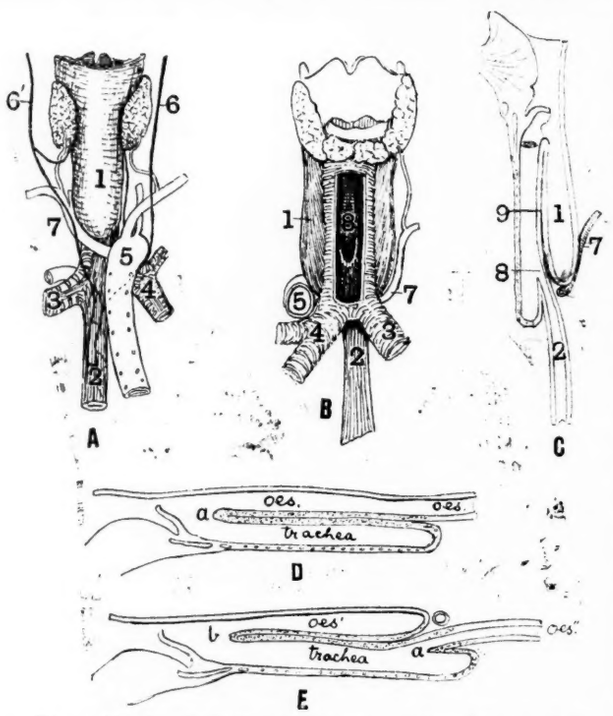


Fig. 3.—Figures illustrating irregular separation of the trachea from the oesophagus. A, B, and C, Dorsal, ventral, and lateral views of a case reported by Keith and Spicer in the *Journ. Anat. and Phys.*, 1907, vol. xli, p. 52. 1, Upper part of oesophagus ending in a cul-de-sac; 2, lower part arising from posterior wall of trachea; 3, 4, left and right bronchi; 5, arch of aorta; 6, vagus; 7, right subclavian artery arising as last branch of the aortic arch; 8, opening in trachea for lower part of oesophagus. D, E, The regular and irregular formation of the septum between trachea and oesophagus.

The arrangement of parts is incompatible with life; to reach the stomach, food must pass by the larynx, trachea, and the lower part of the oesophagus which opens from the trachea. The great majority of children with this malformation die in the latter half of the first week of life, but one case at least lived until the twelfth day. Every attempt to suckle ends in an attack which threatens suffocation. Operative measures to unite the two segments of the oesophagus are theoretically possible, but the technical difficulties are very great, and, so far as I know, operation has never been attempted. The diagnosis rests in finding the obstruction at a point 8 to 10 cm. from the lips.

The condition here described is usually regarded as an atresia of the oesophagus, but it is more than that—it is a maldevelopment of the septum between the oesophagus and trachea. A study of the evolution and development of the trachea and oesophagus provides a key to this malformation. The trachea is a comparatively recent structure in its evolution; it appears with the demarcation of a neck. In the amphibia the trachea and bronchi are absent; the lungs spring directly from the larynx. The oesophagus is little more than a sphincter between pharynx and stomach. When a neck appears, the posterior part of the amphibian larynx and the overlying part of the pharynx are elongated to form the trachea, bronchi, and the corresponding part of the oesophagus. Their common origin is seen in their common nerve supply from the recurrent laryngeal nerves. To interpret the appearances seen during the development of the trachea in the mammalian embryo, one must apply the knowledge gained from a study of the comparative anatomy of the parts. The larynx and the trachea appear in the human embryo towards the end of the third week as a gutter in the floor of the primitive foregut; the margins of this groove fuse to form the trachea-oesophageal septum, out of which the posterior wall of the trachea and anterior wall of the oesophagus are differentiated. The processes of fusion begin behind and spread uninterruptedly forwards. In normal development the union of the tracheal margins takes place simultaneously with the elongation of the foregut. Clearly, in the malformations with which we are dealing, the lateral margins of the tracheal groove, instead of meeting behind on the floor of the foregut, meet on its dorsal wall; hence, when they fuse, the septum between the trachea and oesophagus is laid down in the position shown in D E, Fig. 3, in place of the normal position shown in D, Fig. 3.

The break in the oesophagus occurs at what I believe is the junction of two morphological parts. The upper part is derived from the pharynx; its muscular fibres are chiefly, almost entirely, striated fibres, a fact which Luschka had discovered many years before me, as may be seen in Ballantyne's excellent book.[6] The lower part is derived from the primitive oesophagus, and is coated with non-striated fibres. In this malformation the primitive oesophagus ends in the trachea, a derivative of the primitive pharynx.

Cases have been described in which a congenital fistula existed between the trachea and oesophagus; we have no specimen of this condition in London collections, nor is there one in which the lower part of the oesophagus opens from the left bronchus. These forms can be accounted for by an irregular or interrupted fusion of the tracheal margins of the embryo; cases have also been seen in which the upper cul-de-sac of the oesophagus communicated with the trachea by a fistula.

Mr. Bland-Sutton has pointed out how often congenital constrictions of the alimentary canal occur at the points where developmental diverticula occur. Mr. Shattock[7] regards the atresia of the oesophagus as being determined by the outgrowth of the lung buds, the process of evagination involving the whole thickness of the foregut instead of being confined to its ventral wall. A study of the associated malformations throws some light on the nature of this lesion. Happich found that in 28 cases out of 59 there were other abnormalities, such as an imperforate anus, pulmonary stenosis, club-foot, spina bifida. In three consecutive cases, Dr. Spicer and I found that there was a persistence of the left aortic arch; but the persistence of this arch, although common, is not constant. Morell Mackenzie[8] collected 63 published cases of malformation of the oesophagus in 1884; 43 of them were of the nature described here. Drs. Crozer Griffith and R. S. Lavenson[9] have given a summary of recently published cases.

*Hour-Glass Constriction of Stomach.*

Although an hour-glass constriction of the stomach cannot be regarded as of uncommon occurrence, yet there are remarkably few specimens in the metropolitan medical museums. I saw fourteen in all, four of them being in the museum of this college. All the specimens agree in having the cardiac part sharply marked off from the pyloric by a constriction, but the form of the constriction is not quite alike in any two of them; in some the constriction is annular, notching both the lesser and greater curvatures of the stomach, or only the lesser curvature may be involved. In more than half of the cases the connexion between the two compartments of the stomach was tubular in form, the intermediate narrow part being 1 in. or more in length.

As to the nature of the mid-gastric constriction, one must remember that the condition has never been observed at birth; there is no evidence of maldevelopment producing the constriction. Sir Everard Home was the first to form a definite conception of its nature. In his Hunterian lectures, delivered nearly 100 years ago in this theatre, he described how his observations on the living stomach had convinced him that it was made up of two functional parts—a cardiac and pyloric—and that these two parts were separated in life by a mid-gastric sphincter. In hour-glass stomach the contraction of the mid-gastric sphincter became permanent, in the same manner and for the same obscure reasons as happens at the upper oesophageal and pyloric orifices. The results gained by Canon, by Hertz, and by Gray,[10] in studying the mechanism of gastric digestion, have confirmed and extended Home's observations; so, too, have the anatomical studies of the late Professor Cunningham.[11] The mid-gastric sphincter differs from the musculature at the oesophageal, pyloric and ileo caecal orifices in being active only during digestion, whereas the others are always in action. Home also observed that the action of the mid-gastric sphincter might be lost in certain cases of disease—a conclusion which Dr. W. H. M. Gray reached from his study of clinical cases by the aid of $x$ rays. The mid-gastric sphincter of the stomach is certainly not an anatomical entity, but must be regarded as the commencement of the pyloric part of the stomach. Mayo Robson[12] and Moynihan[13] regard hour-glass constriction as always the result of a pathological process; Tobin found that in only 1 of 6 cases was there evidence of cicatrization. I agree that in the majority of cases this constriction is a result of ulceration, but the narrowing is determined by cicatrization occurring in that part of the stomach which is kept in a state of tonic contraction by the mid-gastric sphincter. Ulceration may occur at any part of the stomach, but this constriction occurs between the cardiac and pyloric divisions.

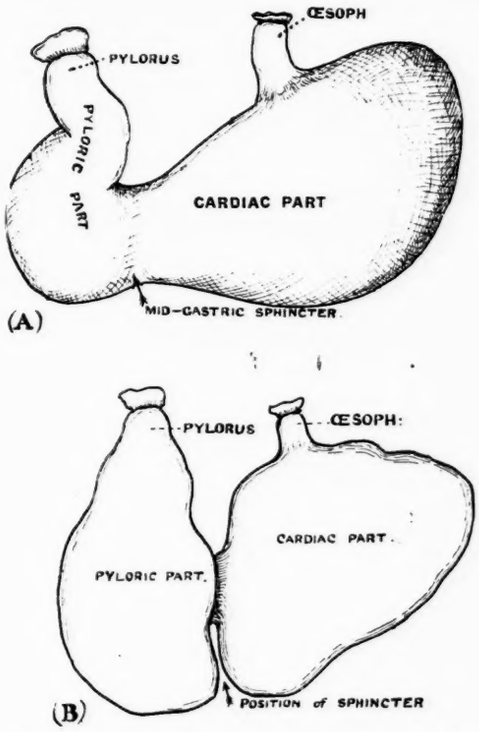


Fig. 4.—Sir Everard Home's illustrations of the mid-gastric sphincter in the normal human stomach (A) and in the hour-glass stomach (B).

*Hypertrophic Stenosis of the Pylorus.*

There is not a single specimen in the metropolitan medical museums of a stenosis of the pylorus in a fetus or newly-born child. Of the fourteen museum specimens illustrating this condition, only two of which are in the college collection, not one is from a child less than one month old. Many of these specimens are also unsatisfactory for the reason that their appearance depends on the manner of preservation, the varying length of time which elapsed after death before they were fixed by preservatives, and the degree of contraction present in the sphincter at the time of fixation. The pyloric region of the stomach of healthy children shows a wide variation in development. In only eight of the fourteen specimens was a longitudinal section of the pylorus shown. In these the musculature at the pylorus measured 2.5 to 3 mm. in thickness, whereas the thickness in normal children of a corresponding age amounts to 1.5 to 2 mm., but all these measurements vary with the state of tonus at the time of fixation. The condition appears to result from a functional derangement. Beyond the muscular hypertrophy there is no pathological manifestation.

*Congenital Occlusion of the Duodenum.*

The only specimen representing congenital occlusion of the duodenum in the college collection is one recently presented by Mr. Ernest Shaw, but it is typical of the other seven specimens which I have examined, six in metropolitan medical museums, and one in the University Museum of Leeds. Mr. Shaw's specimen is shown in Fig. 5. Immediately above the entrance of the common bile duct the duodenum is occluded by a septum, which is covered on each side by mucous membrane, and contains muscular strata continuous with the muscular coats of the bowel. In two cases an accessory pancreatic duct can be seen to open in the duodenum above the septum. In one case the occlusion is represented by, not a septum, but an annular constriction, showing that in this lesion there is an arrest of development of a segment of the duodenum. A specimen in the museum of St. Bartholomew's Hospital (No. 3635E[1]) was obtained

from a very remarkable case. The child lived for nine months, although the occlusion of the duodenum was complete. It had recurrent fits of vomiting, and passed very little per anum. The medical men who reported the case thought there must have been some other passage for the food than that by the duodenum. Sir Everard Home found that absorption from the stomach took place in the dog after the duodenum had been tied; in the case of this child absorption was apparently sufficient to keep it in life for nine months. Besides the eight specimens mentioned above there were three others showing variations of this condition. One in the museum of St. Mary's Hospital Medical School is remarkable. The dilated duodenum of an adult is crossed by a diaphragm above the opening of the common bile duct. In the diaphragm, which is ballooned downwards into the second stage of the duodenum, there is an oval orifice measuring about 5 by 3 mm. In another specimen (No. 3635 B, St. Bartholomew's Hospital) the occlusion occurs at the usual point, but the duodenum beyond the occlusion and the first part of the jejunum are obliterated. A specimen in the college museum obtained from Mr. Liston's collection shows a constriction of the duodenum just beyond the pylorus.

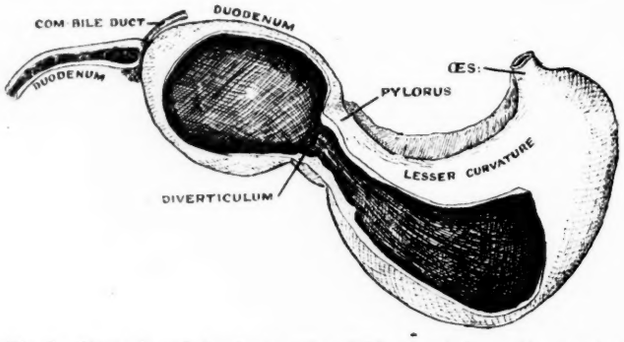


Fig. 5.—Stomach and duodenum of a child several days old, showing congenital occlusion above the entrance of the common bile duct.

Why occlusion should occur in the Vaterian segment of the duodenum is not very apparent. It is probably associated, as Mr. Bland-Sutton has inferred, with the outgrowth of the embryonic buds of the liver and pancreas. It occurs at the junction of two morphological parts of the alimentary tract—the fore and mid gut. Congenital occlusions of the bowel have been recently investigated by a Swedish anatomist, Hjalmar Forssner,[14] who finds, as Professor Tandler had found some years before, that the Vaterian segment of the duodenum is occluded by the proliferation of its epithelial lining during the greater part of the second month of development—a form of occlusion which also occurs in the oesophagus and many parts of the small and large bowel. The epithelial plug, failing to break down as development proceeds, leads to an occlusion of the bowel at that point. Cases of this nature have been recently reported by Mr. H. S. Clogg.[15]

*Congenital Constrictions and Occlusions of the Jejunum.*

Malformations of the jejunum are variable in shape and position. Of the eight museum specimens representing this lesion, three of which are in the college collection, not any two are exactly alike. In Fig. 6 I represent the condition found in a case which occurred at the London Hospital some years ago—that of a child who died on the third day after birth with all the symptoms of acute intestinal obstruction. The continuity of the jejunum is interrupted above the ileo-jejunal junction, the total length of the small bowel being 135 cm. The upper segment is distended and elongated by the intestinal contents, while the lower segment is contracted and contains a considerable amount of meconium-like material. The diameter of the upper segment was 25 mm., that of the lower 9 mm. At the point of interruption there is a V-shaped gap in the mesentery (Fig. 6), with a smooth but thin edge. In a similar case, Bergallonne[16] found a thread-like margin to the mesenteric gap, the thread representing the two outer coats of the bowel. The exact lesion which causes a localized atresia of the intestine can only be guessed at, for until the end of the third week of embryonic life the jejunum, ileum, and proximal part of the colon are represented by the short segment of gut which overlies the yolk sac. The manner in which this short segment becomes rapidly elongated, thrown into coils, and separated from the yolk sac is at present imperfectly understood. Forssner[14] attributes the occlusions to a persistence of the epithelial plugs which close the bowel in the second month of development. Altogether I saw 8 cases of congenital constriction or occlusion of the jejunum. Three cases were of the type just described, where a segment was absent altogether or represented merely by a thread on the edge of the mesentery; in 2 there were multiple defects; in 2 the lumen of the bowel was open, but the passage of contents was prevented by a septum; in 1 there was merely a localized narrowing or stricture. J. E. Emmanuel[17] reported the case of a seventh-month child with multiple constrictions of the jejunum, which lived for nine days. In 31 cases of congenital constriction of the small bowel Hirschsprung found that the lesion was situated in the duodenum in 16, at the ileo-caecal junction in 6, and between these points in 9.

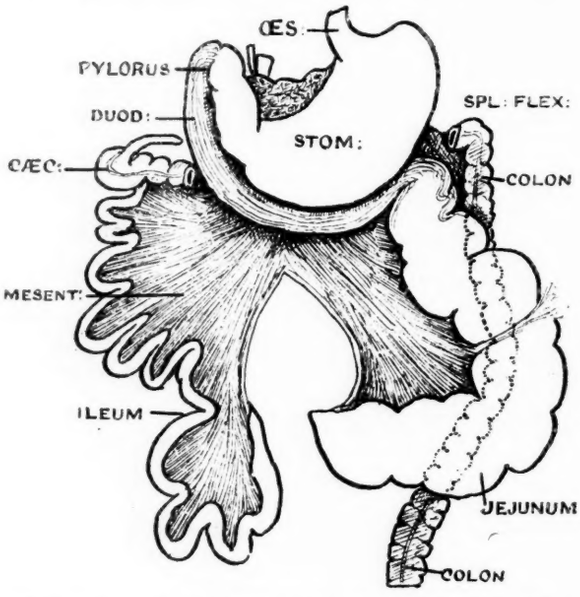


Fig. 6.—Congenital atresia of a segment of the jejunum with a V-shaped gap in the mesentery.

*Congenital Occlusion of the Ileum.*

A narrowing of the ileum is often associated with the presence of a Meckel's diverticulum; it is usually situated proximal to the diverticulum, but may be distal or opposite to it. I have seen several cases in which the bowel was reduced to half or less of its normal lumen at a distance of 2 ft. or 3 ft. above the ileo-caecal junction; these constrictions apparently occur at the same site as Meckel's diverticulum, and are associated with the atrophy of the yolk sac. The process of atrophy, which normally overtakes the stalk of the yolk sac, appears, in these cases, to extend to the neighbouring bowel. Of the seven museum specimens illustrating congenital occlusion of the ileum, one shows a complete break in the continuity of the bowel at a point 2 ft. above the ileo-caecal junction; in two the terminal part of the ileum is absent, the defect apparently commencing at the usual site of a Meckel's diverticulum; in one the terminal part of the ileum is reduced in size, the reduction commencing at Meckel's point; in one a diaphragm crosses the lumen of the bowel at this point; in one the defects are multiple; in the seventh preparation the occlusion is apparently due to adhesive bands resulting from fetal peritonitis. A remarkable preparation (No. 45 Museum of St. Bartholomew's Hospital) may be placed in this group, although it repre-

sents an arrest of growth of the whole of the small intestine. The preparation was obtained by Mr. Abernethy from a boy aged 12 years, in whom the small bowel was only 2 ft. in length; the colon measured 4 ft. Mr. H. S. Clogg[15] has recorded two very instructive cases of occlusion of the ileum; in one the ileum at Meckel's point was reduced to a thread; in the other the small intestine, which lay within an umbilical hernia, showed a complete absence of the segment of the bowel in the neighbourhood of Meckel's point. Dr. D. Waterston[18] has also reported a case in which the ileum near Meckel's point was absent, the corresponding part of the mesentery showing a W-shaped deficiency.

*Occlusion at the Ileo-caecal Junction.*

Although cases of congenital occlusion at the ileo-caecal junction have been recorded, there are no representatives of the lesion in the metropolitan museums with the exception of one in the college collection. Seeing that the musculature at the termination of the ileum is sphincteric in action, one may expect constrictions to occur at the ileo-caecal orifice similar to those which occur at the pylorus, but the only specimen I have seen which may represent such a lesion is No. 2522A in the college museum. The preparation was obtained from a woman, aged 62, who suffered from habitual constipation. The constriction at the ileo-caecal sphincter is supposed to result from syphilis, but there is no evidence that this is the case. In the specimen of congenital ileo-caecal occlusion the lumen of the ileum is closed ½ in. above the ileo-caecal orifice.

*Congenital Occlusion of the Colon.*

This lesion is represented by only four preparations in the medical museums of London. In one the great intestine is absent beyond the hepatic flexure; in two the splenic flexure is represented merely by a thread which united the transverse and descending colons; in the fourth a septum occurs at the junction of the pelvic colon and rectum. Congenital atresia of the colon is thus of uncommon occurrence; apparently the splenic flexure is the part most frequently affected. Atresia at the termination of the rectum is by far the most common point at which occlusion of the alimentary canal occurs. The specimens illustrating this lesion have been already described.[19]

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AT its last meeting the Paris Académie des Sciences elected Sir Patrick Manson a corresponding member.

THE International American Congress of Medicine and Hygiene will be held on May 25th in Buenos Aires in commemoration of the first centenary of the May revolution of 1810. The President of the Congress will be Dr. Eliseo Canton, who, in conjunction with the Minister of the Argentine Republic at Washington, has appointed a Committee of Propaganda, of which Dr. Charles H. Frazier of Philadelphia is Chairman, and Dr. Alfred Reginald Allen of Philadelphia, Secretary. The work of the congress will be distributed among eight sections: Biology; medicine; surgery; public hygiene; pharmacy and chemistry; sanitary technology; veterinary police; and dental pathology. There will also be an exhibition of hygiene. The official languages of the congress will be Spanish and English.

# A Lecture
ON
# SOME ASPECTS OF POLIOMYELITIS.

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BY

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GENTLEMEN,—If you were asked the question, "What disease causes the most numerous mistakes in diagnosis?" your answer would probably depend on the character of your experience; but I think if you said "poliomyelitis" you would not be far from the truth. The errors to which it gives rise do not imply ignorance. They are due to the fact that the symptoms of the paralysis are so often preceded by others that resemble some general malady, and this is first supposed to exist, and to it the paralysis, when recognized, is often supposed to be secondary.

This danger does not always arise. In many of the cases, especially in those which arise in the early period of life, the paralysis comes on at the onset or at the second day of any general symptoms. There is then no room for error. But when the onset is after the infantile period, as the first three years of life may be termed, the general initial symptoms are much more marked in character and more prolonged in duration. These misleading cases have seemed to be more frequent during recent years, and are certainly of sufficient frequency to justify a word of warning. They occur at any period up to the completion of development, and sometimes even later. These patients are naturally able to describe their symptoms in greater detail, and so sometimes to add to the delusiveness which special symptoms confer upon them. I shall have some cases to show you which illustrate this fact.

I may mention another symptom which often causes error—the great pain in the limbs in the early stages, often accompanied by much tenderness. It may endure much longer, and is then attended with definite signs of inflammation of the nerves. In the early stage much fever accompanies the pain, and it is easy to think that the symptoms indicate rheumatic fever; to which it is easy to think that the spinal cord affection is secondary. This is probably always a mistake. I saw a case not long ago in whom the febrile disturbance of the disease lasted for a fortnight, and a diagnosis of typhoid fever was made to which the spinal affection was thought to be secondary. In such cases it is easier not only to say but to think that the original diagnosis was correct, and the spinal affection was really secondary to it. Many diagnostic errors are made in a kind of honesty over which the mind glides easily to a wrong conclusion.

Moreover, a mistake is often rendered easy by the severity of the initial symptoms; they naturally cause prostration. The area affected by the paralysis is usually at first wide, sometimes almost universal, and only the return of power in some part shows that it cannot be ascribed to mere prostration. Those of you who have already had some experience of practice will realize how firmly rooted an idea may be about the nature of a child's illness in the maternal mind, especially if it was originally formed after a consultation with the mind of an older individual of the same sex. I remember once seeing a child with severe paralysis of this form whose mother had allowed it to go on for three months before she thought it worth while to see a doctor.

The disease was formerly known as infantile spinal paralysis because it chiefly occurred during the first three years of life, but cases later in life seem to have been more frequent in recent years, and during the last ten or fifteen years it has been observed to occur in apparent epidemics. In consequence, the pathology of the disease has attracted much attention, and our knowledge of it has been found to be most defective.

The epidemics of the disease have varied much in their extent, but all have occurred during or just after the hot season of the year. This is not a new feature; it has always been so with the sporadic form. As I expressed it many years ago, two thirds of the cases occur during the

hottest third of the year. Excluding the epidemics that is nearly the truth, and it is less than the truth if they are included. July, August, September, and October are the periods of most of the cases. Both sporadic cases and those in epidemics have been noted to occur after hot dry weather.

The most extensive epidemic occurred in the United States in 1907, and is believed to have included several thousand cases. Two have occurred in Australia—one in Queensland in 1903 and one at Melbourne in 1908 (of 137 cases). The second largest occurred in Sweden in 1905, which has been very thoroughly investigated by Wickman, who has published an admirable account of it, much more thorough than any other outbreak has received. It consisted of a great number of small local epidemics, each of which is separately described and illustrated by a small map. He is convinced that the extension of the disease in each locality can only be explained by personal contagion, although in every instance it seemed to begin without infection. Unfortunately he has thought it desirable to introduce a new name for the disease, and calls his book the *Heine-Medin Malady*, from two writers who described it, the latter in its epidemic form.[1]

It is curious that extensive outbreaks have been preserved for the present time. But many smaller epidemics have been described—one in the United States as long ago as 1841. This country has, fortunately, been free from such as merit record. A curious series of cases in one family in London was recorded a few years ago by Dr. Pasteur, and a very instructive account of an outbreak last year in the south of Essex has been given by Dr. W. W. Treves, of the London Hospital, in the last number of *Brain*.[2] It comprehends only 8 cases which occurred in Upminster, July to September, 1908. It closely resembled the individual outbreaks in Sweden. No other epidemic is known to have occurred in this country last year, but I have 3 sporadic cases to show you, the onset of which occurred then. Two of them have a peculiar interest because they are two brothers, who lived together near Wisbech in Lincolnshire, and were taken ill on the same day, whilst the epidemic at Upminster was in progress. But no connexion between the two cases can be traced, and Wisbech is about 130 miles from Upminster.

It has been noted that during the epidemics cases have been frequent which transcend in age the common infantile period of incidence of the disease, and that they present features that are thought to be special to the epidemic form. It is probable that these features are chiefly connected with the older age of the patient. Dr. Berg,[3] of New York, has specially insisted on the features of the epidemic form in the United States, but these features have been conspicuous in the cases that have occurred here in the last two years, including those I have to mention to day.

The first two cases I have to show you are young men, two brothers, healthy young farmers. They lived in the same house in the country, and were taken ill on the same day a year and a quarter ago. No other cases are known in the district, before or since, I am assured by the doctor who attended them. The younger, George C. is now 17, he was 16 when, on August 27th, 1908, he was suddenly taken ill with sore throat and some headache. He soon improved, but did not feel strong enough to resume his usual work. On September 5th the weakness seemed to increase, and he had a difficulty in standing up, and the following day he had greater weakness, especially in the left leg; he also again felt ill, and his temperature was considerably raised—to 104°F. The following day the right leg was also almost powerless; and afterwards he found that the arms were also weak. There was no loss of sensation or impairment of the sphincters. In ten days power began to return in the feet; he stayed in bed for a fortnight, and slowly improved, but it was three months before he was able to stand. No symptoms in the region of the cranial nerves were felt, but his power of coughing was much weakened.

His residual condition you now see. His arms are only a little weakened, but the thoracic muscles are very feeble, and he can exert no power with the abdominal muscles. The left erector spinae is much more wasted than the right, and considerable curvature has developed. The legs are still weak, but he can walk for a mile, and the knee-jerk is fair on the right side; on the left it is only just to be obtained.

The brother was 17½ when he was taken ill, in the same way, on the same day, August 27th, with sore throat, frontal headache, and general malaise. He was in bed two days and spent the third in the house, but felt so well on August 31st that he went back to his farm work and did an ordinary day's work. The following day was wet, and he got wet through, but came home and changed his clothes, feeling quite well. He slept well that night and got up in the morning feeling nothing amiss. But at 9 a.m. he felt giddy and could not walk straight. The condition came on quite suddenly, while he was churning. Headache came on at the same time, frontal and at each side; it was severe, the giddiness rapidly increased, and was accompanied by weakness of the legs, which were so feeble that at 11 o'clock he went to bed. He slept most of the time till the following morning, when he had lost all movement in the legs and the arms were distinctly weak. He was found to be feverish, his temperature being 104° F. For a fortnight he continued to feel ill, with much headache and sleeplessness. The arms began to gain strength after the first few days, and in six weeks seemed as strong as before, but the legs presented wasting, and even now there is only a very little movement in the toes.

Before I speak further of these two brothers I will mention the onset of the disease in the two other cases I have here. This boy was taken ill a year ago, in November, 1908, when he was a little more than 14 years old. For two days he had general pains, especially severe in the back. This is a common seat for the initial pains. On the third day weakness of the legs was found and he was more feverish, his temperature being 104°, and there was some delirium. The weakness of the legs continued with wasting, and even now very little recovery has taken place.

The fourth patient is younger, only 7. His illness dates from this year; it began in the middle of last September. It at first resembled a severe cold, and lasted for a week. He was kept in bed for three days, and seemed to get quite well and to be so for two days. (Compare this intermission with that of the two brothers.) Then, while writing a letter in a noisy room, he went to sleep. He was carried upstairs, undressed and put to bed, still asleep. He slept on through the rest of the day and night. He woke in the morning to find that he could not move his legs or the right arm. He had pains all over, and his neck was rigid. His temperature is said also to have been 104°. Power in the arm was soon regained, during the first week, and the stiffness of the neck disappeared, but his legs still remain paralysed.

These cases illustrate the common rule, but varieties constantly occur in the severity and duration of the early symptoms. Sometimes they are scarcely to be recognized, occasionally, as I have said, they continue for a couple of weeks. All the cases I have shown you are beyond the common infantile epoch, and, as a rule, the older the patient the more pronounced are these general manifestations, and the longer their duration. In the remarkable occasional prevalence of the disease during recent years, an unusually large proportion of the cases have occurred in patients who transcend in age that of cases usually observed, and in whom, therefore, these general symptoms have been unusually conspicuous.

I may mention to you another sporadic case of last year. A girl of 16½, ten days after getting wet through, was seized with a febrile illness on September 26th. Her temperature was 101° on the second day and 102° on the third, with paralysis of the legs and loss of all reflex action. Retention of urine existed from the first, but power of expulsion was regained in a month. Moderate recovery very slowly followed.

The following case presented the affection of the centre of the medulla, which has been thought to be a feature of the epidemic form. A boy, aged 10, at school played football after rain on the last Saturday in September, 1909, and sat down afterwards on the damp grass. On the Monday he had headache and a temperature of 104°. On Wednesday weakness of the right side of the face was noticed, and it was definitely paralysed on the next day. Then the right arm was found to be paralysed, and in a day or two both legs also, and at the end of a week there was strabismus, apparently due to paralysis of the sixth nerve. The temperature did not become normal until after the tenth day. The face recovered power in a week.

The strabismus ceased after a month; the arm can now be moved freely but is generally wasted, and the legs are still too weak to enable him to stand.

Another feature of the epidemic form is the frequency with which cases terminate fatally and also recover completely. The mortality has been estimated at about 12 per cent., and consists especially of cases in which the grey matter of the medulla has been extensively involved.

Numerous and strenuous have been the attempts to isolate and cultivate the material agent of the disease. But none can have been said to have been successful. In a large number of cases the results have been simply negative. Organisms have been sought in the spinal cord of early fatal cases, and also in the fluid obtained by lumbar puncture. Those that have been found in small quantity, bacterial or micrococcal, have failed to grow. The only success in reproducing the disease has been obtained in monkeys, which seem specially prone to the malady. Landsteiner and Popper[4] failed to find any organisms in the spinal cord of a boy, aged 6, who died within twenty-four hours of the onset of symptoms in Vienna, nor could they succeed in attempts to cultivate. The substance of the cord was injected without result into rabbits, guinea-pigs, and mice, but of two apes injected, one developed typical paralysis after seventeen days and died in two days. The other monkey was taken ill the day after inoculation, and died two days later. There was general inflammation of the spinal cord, but not the typical condition of the disease. The spinal cord of the first was injected into two other apes, but without result. Recently greater success has been obtained by Flexner and Paul[5] in the United States at the Rockefeller Institute, New York. They succeeded in producing the disease in six successive monkeys, using for the first the inflamed spinal cord of a fatal case of poliomyelitis, and for the next the spinal cord of the monkey affected. They employed intracerebral and intraperitoneal injection, but at first failed with subcutaneous injection, which, however, was at last successful. But they failed to find or to cultivate any organisms. They confirmed the supposition that their size is too small for observation, by pressing the material through a Berkefeldt filter, and after this found that it would still give rise to the disease.

This result seems to raise a question whether the poison which affects the spinal cord may not be a simple chemical poison like that which has been shown to cause the paralysis after diphtheria, or which causes the symptoms of tetanus. The prolonged manifestations of the early disturbance in many cases are often in harmony with a secondary production of the poison. It is so, for instance, in the cases of the first two patients and the fourth one I have shown you, in which the early general symptoms were separated by approximate or complete recovery from the onset of the symptoms of the affection of the nervous system. But in the third case the nervous symptoms seemed part of the early disturbance, and this is often the case.

Unfortunately, moreover, this discovery of the reproduction of the disease by the material from the seat of the specific inflammation affords no prospect of means of treatment. It leaves us therapeutically where we were before. Could a bacterial materies morbi be obtained, we might hope that its cultivation would afford the prospect of obtaining a means of counteracting the action on the spinal cord, but any discoverable organism seems further off than ever, and there is no promise of any prospective means of neutralizing the paralysing agent. We can only hope that the power of recognizing the initial symptoms may grow, and that they may induce more care in the management of those patients who present them, even if they have the semblance of a simple catarrh. At least we may hope that this may be common when there are any signs of local prevalence of the disease. Any pronouncement or special symptom of a catarrh should then cause more than usual caution, especially if pains in the limbs or back are conspicuous. When any loss of power presents itself it should be remembered that it may be the same at first whether the paralysis is going to be transient or enduring, and a posture should be adopted which will prevent congestion of the grey matter related to the part. Especially if the symptoms indicate that the spinal cord is affected, the patient should not lie on the back. If a position on one or the other side is impracticable, pillows against the back will raise the spine from the lowest position and save the inevitable hyperaemia from being augmented by the effect of gravitation. We can never know the effect of the measures we adopt in a case in which the degree of change varies so much, but it is more than probable that this measure will often save from an extreme degree of damage which otherwise would easily occur. Any symptoms indicating an affection of the nerve centres should obviously prevent any functional excitement of the part, even so slight as that involved in the least locomotion. The medicine given at first may be that for an acute catarrhal state which the general character of the symptoms resembles. Strychnine should not be given until after the first two or three weeks. It is not wise to stimulate structures that are inflamed. Electricity should be deferred a little longer. Massage, or rather rubbing, may be commenced sooner, but with great gentleness. Upward rubbing should be employed, with such pressure as causes no pain. Kneading of the muscles is better avoided. The upward motion has a valuable influence on the circulation, vascular and extravascular; it tends to move the fluids towards the heart. The affected limbs are cold, and there is a tendency to slight oedema of the subcutaneous tissues which the effect of upward rubbing counteracts.

The inflammation of the grey matter, if severe, destroys the motor nerve cells and entails degeneration of the motor nerve fibres, and in consequence the excitability of the muscles to faradism fails, but the muscle tissue retains its excitability to slowly interrupted voltaism. This is generally increased, the action occurring to a weaker current than in health, and more readily to the positive than to the negative pole; in other words, the anodal closure contraction occurs more readily than the kathodal closure, which normally occurs with the weaker current. This voltaic reaction of the muscles is very important, because, if employed, it preserves their power of action to the normal stimulus if the nerves regenerate, as they may do if the cells are not completely destroyed.

We do not always find the reaction changed as I have described. Sometimes the inflammation is slight, and only a few of the cells are gravely damaged. The muscle may then react to faradism through the unaffected nerves, although those that have degenerated cause some of the fibres to react to the anode of degeneration. On the other hand, the action to voltaic electricity may quickly disappear, as well as that to faradism. This is a sign of a very irritative form of nerve degeneration, which passes from the ends of the motor nerves to the muscular fibres, and entails their structural degeneration, so that they also perish and cannot be renewed. It is thus the gravest possible sign.

The two conditions may be reproduced experimentally. If the nerve is tied by a simple thread, a simple nerve degeneration is the result, with the persistent voltaic irritability in the muscle. But if the thread is made irritative by some acid and is passed through the nerve, the descending nerve degeneration is rendered irritant; it is passed on to the muscular fibres, and they speedily lose all reaction, and undergo rapidly the destructive degeneration.

Such cases are but rarely met with. Ordinarily, there is not complete loss of excitability, and after a few months improved reaction can be perceived and steadily increases. Indeed the progressive improvement goes on for much longer than would be thought probable and the degree of power ultimately gained transcends anticipation. After a month from the onset, strychnine should be given regularly. After a time, say six months, when the legs are affected, their power may be made more effective by artificial support carefully contrived to supplement the weakness. The deformities which are apt to develop from the contraction of the less paralysed muscles, in consequence of the loss of the force of those that should oppose them, must be carefully watched for from an early period. As far as possible they must be prevented by careful attention to posture; especially the contraction of the calf muscles must be obviated by support to the feet, and curvature of the spine when a child begins to sit up, if there is weakness of the spinal muscles which is greater on one side, may be counteracted by constant attention to posture. Often an appliance is needed to give the support that is lacking on one side and prevent the displacement

of the spine towards the less affected side, which, in these cases, often tends to occur.

The epidemic in Scandinavia has left the conviction that the disease is contagious. This is the conclusion of Wickman, who has described the whole epidemic most carefully. Cases of poliomyelitis are now carefully isolated in Denmark and Sweden, and are taken to the hospitals for contagious diseases, whether the cases are sporadic or the disease is epidemic. In this country, with the exception of the small epidemic I have mentioned, the disease has only occurred in its sporadic form. No second case has ever been known to occur from contact. This is true of the cases I have shown you to-day; even if we include the so-called abortive cases, no instances are to be heard of. Isolation is never thought of, and it is always neglected with perfect impunity. But when we read the account of the separate outbreaks described by Wickman, it is easy to understand the belief that it is contagious, and yet there are difficulties in applying the belief. Many escaped infection who were of the age that involves an apparent disposition to suffer. Others suffered in the same district who lived so far away and were affected so long afterwards that it was necessary to assume an indirect contagion by some unknown means. But this can only happen in the case of a malady that is intensely infectious, of which, in this malady, there is no evidence.

The only other conceivable explanation of these outbreaks is that the cause of the attacks is of local origin—that the so-called epidemics are really endemics. The Upminster outbreak is of significance in this respect. Although it was so small in extent, it presents all the features relevant to the question of its nature. The first case was a resident child, 3½ years old, who was taken ill on July 26th. All the other cases were over 6. Two sisters were taken ill on August 24th who had been staying at a distance and returned to Upminster on August 18th; one proved an abortive case, but the other developed some paralysis. A boy was also attacked on the 24th. Two sisters who had been away until September 3rd were attacked on the 11th and 12th; a younger child was unaffected. The last case was a boy taken ill on September 16th, who had no constitutional symptoms and only transient palsy of one leg. No opportunities for personal infection are mentioned.

The cases which returned to Upminster from a distance suggest five or six days as the period of incubation of the disease. Attempts to determine it were made by Wickman without success. They varied from one to thirty days. It is certain that if the disease is endemic in origin and not due to contagion many cases must occur having the semblance of a contagious origin.

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# An Address
ON
# HEREDITY AND DISEASE.

GIVEN BEFORE THE SWANSEA DIVISION OF THE SOUTH WALES AND MONMOUTHSHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

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WITHIN the limits of this address I shall not attempt to deal with details, but shall confine myself to a statement of certain fundamental principles which must always be clearly kept in mind if we wish to get any real grip of the problems associated with the inheritance of disease.

As with many other concepts of science, heredity has passed through a stage in which it was looked upon as something mystical, or at any rate metaphysical—something akin to the vital essences or the humours of the old philosophers. But those old foes to mysticism, observation and experiment, enable us to conceive of heredity and inheritance as something entirely physical, to be expressed in terms of molecules and chemical combinations, with an actual physical basis of particles of protoplasm. Of course, as regards the eternal "why" of the whole process, we are no whit nearer than was Hippocrates—"Ignoramus, Ignorabimus"—but we have attained to a working hypothesis as to "how" heredity is manufactured in the laboratory of the reproductive organs.

Heredity, then, is not an abstract conception, or a principle, or an essence, but simply a short term for "the genetic relation between successive generations of organisms," and inheritance may best be defined as being "all that any organism is, or has, to start with by reason of its hereditary relations" (Thomson).

And what is the physical basis of inheritance? It may be taken, I think, no longer as a physiological theory, but as a fact, that this physical basis resides in those deeply stainable particles in the intranuclear network of the fertilized ovum known as the "chromosomes" or "idants," and one of the most interesting discoveries of modern times is that all the cells—all the cells of the different tissues—in the body of any particular plant or animal always contain the same number of chromosomes, and in all forms which reproduce sexually the number is even. The number varies greatly—as low as two in some of the threadworms, as many as 168 in some of the crustacea. The human species has twenty-four chromosomes, and we share this number with such differing fellow-beings as the mouse, the trout, the salamander, and the lily. It is known that the mature sperm cell and the mature ovum just prior to fertilization each contains only half the number of chromosomes characteristic of the body cells of the species—during the maturation of the germ cells, that is, there has been a reduction of the chromosomes by one-half. When the nuclei of the germ cells fuse to form the single nucleus of the fertilized ovum it is found that all the paternal and maternal chromosomes are present, there has been no fusion of the chromosomes, and the fertilized ovum now again contains the number characteristic of the species—twenty-four in man—half of which have been derived from the father and half from the mother. If we look upon the chromosomes as containing within themselves the physical bases of all the independently hereditable and independently variable qualities which in their totality are the future offspring, this reduction to one-half the number during maturation followed by the close union of the two sets of chromosomes with their different ancestral histories both explains how it is that an offspring tends to resemble its parents and at the same time tends to vary from them—for in this mingling of the chromosomes there must be ample scope for new permutations and combinations of the smaller particulate constituents from which the chromosomes are built up.

Each cell of the future offspring will have 12 paternal chromosomes and 12 maternal. The mature sperm cell of the father has 12 chromosomes, having lost half its original number during maturation, but it does not of necessity follow—and this is the point of cardinal importance—that 6 of them were derived from the grandfather and 6 from the grandmother. The reduction of the paternal chromosomes from 24 to 12, which occurred during maturation, may take place more or less at haphazard. The final number 12 is always attained, but it may be that 7, 8, or 9 of them come from the grandfather, and only 5, 4, or 3 from the grandmother. If the mature sperm cell in a given case had 9 grandpaternal and only 3 grandmaternal chromosomes, then obviously, so far as paternal inheritance goes, the offspring would tend to resemble its grandfather and his ancestors much more than its grandmother and hers. In view of the facts that certain qualities such as stature, or certain diseases such as haemophilia, show a definite relationship to the sex of the inheritor, it is probable that the question of sex causation is connected in some way with this irregularity in the reduction of the chromosomes. Similarly the chromosomes of the four grandparents are made up of contributions from eight great-grandparents, and if the reduction processes were always quite regular, the 24 chromosomes in the fertilized human ovum should contain in the 12 derived from the father 6 from the grandfather and 6 from the grandmother, and these latter groups should each

contain 3 from the great-grandfather and 3 from the great-grandmother; but as the reduction processes are not regular a very great number of possible arrangements may occur, and it becomes easy to understand how any particular heritable quality, making either for health or for disease, may disappear from the inheritance of any particular individual. Now, if we only go back so far as our great-grandparents, we each inherit characteristics from eight different families—barring, of course, marriages of consanguity—and it is somewhat probable that we all of us have chromosomes, some of whose primary constituents or determinants are those of phthisis, of carcinoma, of what not. The point of importance for any individual, some of whose near ancestors have suffered from so-called heritable diseases, is what proportion do the tainted chromosomes bear to the untainted; the greater the proportion, of course, the greater will be the chance of inheriting the tendency to the disease, and a similar taint on both sides of the ancestry will naturally be a double source of danger. A schema which I have modified from a paper by H. E. Ziegler makes this very clear.

*Father* with marked tuberculous and cancerous taints, inherited from both sides.

o o o v v v v v v v ʌ ʌ o o o ʌ ʌ ʌ ʌ v v v c c c

Three mature sperm cells, showing three different combinations.

(*a*) o o o o o o o o ʌ o v ʌ
(*b*) o o v v v v v v v v o v v
(*c*) o o o ʌ ʌ o ʌ ʌ ʌ o o ʌ

*Mother* with quite healthy paternal inheritance, slightly tainted with tubercle and cancer on maternal side.

o o o o o o o o o o o o o o o o v v o o c c ʌ ʌ

Three mature egg cells, showing three different combinations.

(*d*) o o o o o o o o o o o c
(*e*) o o o o o o o o o o v v
(*f*) o o o o o o o o v o ʌ ʌ

o, Healthy chromosome.
v, Chromosome with tuberculous determinants.
ʌ, Chromosome with cancerous determinants.

Here it is clear that the offspring resulting from the fertilization of (*d*) by (*a*) will be almost free from taint of disease, but that the result of the fertilization of (*e*) by (*b*), and of (*f*) by (*c*), will be offspring respectively tainted with tubercle and carcinoma to a marked degree.

It has been well said that all the sciences contribute to the science of medicine, and it is true that the student of heredity has to invoke the aid of mathematics, especially the algebraical theories of the law of probability and the summation of series, to rightly interpret the facts. If we accept as correct Weismann's theory as to the continuity of the germ plasm from generation to generation, then as the inheritance of any individual is made up by equal contributions from the two parents—the contribution from the father must consist of more or less equal contributions from his two parents, and similarly the contribution of the mother of more or less equal contributions from her two parents, and so on backwards to the beginning of life. If these contributions are not metaphysical expressions used simply to cloak ignorance, but actual solid protoplasmic bodies, then the definition of each person's inheritance as "a mosaic of ancestral contributions" is literally and not figuratively correct. From careful statistical work on certain definite characteristics, such as stature in man and colour of the coat in basset hounds, Sir Francis Galton formulated the important law known as the law of ancestral inheritance, which in his own words is as follows: "The two parents between them contribute *on the average* one-half of each inherited quality, each of them contributing one-quarter. The four grandparents contribute between them one-quarter, or each of them one-sixteenth, and so on, the sum of the series $\frac{1}{2}+\frac{1}{4}+\frac{1}{8}+\frac{1}{16}+\ldots$, being equal to 1, as it should be. The bias towards particular diseases or tendencies to such diseases transmitted by any particular ancestors in any given pedigree are eliminated by a law which deals only with average contributions, and the varying prepotencies of sex in respect to different qualities, such as the familiar sex limited diseases of pseudo-hypertrophic muscular paralysis, haemophilia, and colour blindness, are also presumably eliminated." Professor Karl Pearson, who more than any one else has thrown the searchlight of mathematical investigation upon the disorderly and chaotic masses of biological facts, states Galton's law in this form: "Each parent contributes on an average one-quarter, or $(\frac{1}{2})^2$, each grandparent one-sixteenth, or $(\frac{1}{2})^4$, and so on; the occupier of each ancestral place in the $n$th degree, whatever be the value of $n$, contributes $(\frac{1}{2})^{2n}$ of the heritage."

Galton's law and the various ways in which it may be stated are obviously statistical conclusions—that is, they are true on the average, they apply to masses of individuals, they are large and useful generalizations, but they do not of course apply, they are not intended to apply, to individual cases, and there is a sharp contrast between statistical laws referring to masses and physiological laws which can be applied to individuals. There is a well-known conundrum which illustrates the antithesis between truths about masses and truths about individuals—"Why do white sheep eat more than black ones?" the answer not being expressed in terms showing any distinction between metabolic processes in white or black sheep, but being merely, "Because there are more white sheep than black."

Now are there any physiological laws of inheritance applicable to individual units which might be a present help to some comprehension of the real secrets of inheritance, and a future aid to deliberate attempt at the elimination of disease, or even, *pace* sentiment, deliberate attempt to raise the physical and mental status of the race by some system of voluntary selective mating?

Now, some such laws, applicable at any rate to plants, were formulated as the result of careful experiments some forty years ago by a man who is probably destined to take rank with Darwin, Wallace, and Weismann as among the pioneers of biology, Gregor Johann Mendel, the Abbot of Brünn. Mendel published his discoveries in the proceedings of the natural history society of Brünn, and there they lay buried until about the beginning of this century, once brought to light, Mendel's experiments have been repeated and his conclusions verified, so far as concerns the vegetable kingdom, and to-day Mendelism is generally accepted as one of the great generalizations of biology, and the main question now is how far it applies to inheritance in the human race.

Mendel's two chief laws are: The Law of Dominance and the Law of Segregation. The object Mendel set himself was to find out the law of inheritance in hybrid varieties, and he chose for experimentation the ordinary edible pea—*Pisum sativum*—with its several varieties or subspecies—*P. quadratum*, *P. umbellatum*, etc. These varieties have differentiating characteristics which are perfectly constant, such as tallness or dwarfness, rounded or angular seeds, colour of the seed-coats, shape of the pods, etc., and *inter se* they breed quite true. He crossed one variety with another, investigating one character at a time. Thus pollen from a tall pea was used to fertilize the stigma of a dwarf pea, the stamens of the latter being, of course, first removed, and the same was done with the other differentiating characteristics of the varieties. As the result of this artificial fertilization in the hybrid offspring there might have been expected, *a priori*, some sort of an intermediate result, corresponding to a Mulatto or Eurasian in human beings; but what happens is that the hybrids show *one* of each pair of contrasted characters to the total, or almost total, exclusion of the other. The characteristic that prevails or appears in the hybrid offspring is termed "dominant," and that suppressed or apparently suppressed the "recessive" character. In the example of crossing tall and dwarf varieties the offspring are all tall, not intermediate in height between the tall and short parents, and "tallness" is the dominant character, and "dwarfness" the recessive character. This result expresses the first of Mendel's laws—the law of dominance—that when a plant with a dominant character and a plant with a recessive character are crossed the offspring all resemble the dominant parent as regards the character in question. But the recessive character has not in reality disappeared from the inheritance; it is only unexpressed in this particular generation, just as, in popular opinion, gout may in mankind skip a generation, the goutiness,

though present in the gouty son's inheritance, being unexpressed. The proof that the recessive character in the inheritance was simply unexpressed and not lost was obtained by further experiments leading up to the formulation of the second chief law—the law of segregation. In the next generation the cross-bred plants—the products of the dominant and the recessive, but all apparently dominant—were allowed to fertilize themselves, and the result was that the second generation exhibited the two original forms, and generally in a certain proportion—that of three dominants to one recessive. Out of 1,064 plants of this second generation 787 were tall and 277 were dwarf (the exact 3 to 1 proportion would have given 798 tall to 266 dwarf). Now comes the most vitally interesting point: when the recessive dwarfs of this second generation were fertilized among themselves they gave rise to dwarfs only for all succeeding generations—that is, the recessive character bred quite true; and when the dominants were fertilized among themselves they produced *one-third* of "pure" or "extracted" dominants, which in all succeeding generations gave rise to dominants only; and *two-thirds* of cross-bred dominants, which on self-fertilization again gave rise to a mixture of dominants and recessives in the proportion of 3 to 1—and so on for all time.

Punnett gives the following summary of the Mendelian position:

> Wherever there occurs a pair of differentiating characters, of which one is dominant to the other, three possibilities exist: there are recessives which always breed true to the recessive character; there are dominants which breed true to the dominant character, and are therefore pure; and thirdly, there are dominants which may be called impure, and which on self-fertilization (or in-breeding, where the sexes are separate) give both dominant and recessive forms in the fixed proportion of three of the former to one of the latter.

I need not go further into the theories of Mendelism except to indicate the mechanical means by which these results, so constantly observed, may be brought about.

It is supposable, it is even not unlikely, that what happens is this: The hybrid D(R) produces in equal or approximately equal numbers two kinds of germ cells (that is, two kinds of sperm cells and two kinds of egg cells), and in the developing reproductive organs the germ cells are *segregated*, or divided off into two equal lots, one lot containing the determinants which eventually give rise in the case of peas to tallness, or in the case of man (to choose two characteristics which have been observed in some cases to obey Mendelian rules) normal pigmentation or normal colour vision, and the other lot with the determinants of dwarfness for the peas, or for albinism or colour blindness in man.

There are, of course, many further elaborations of Mendelian phenomena, such, for example, as the mating of an impure dominant with a recessive, when the result will be an equal number of impure dominants and recessives; or the mating of an impure dominant with a pure dominant, which produces equal numbers of impure and pure dominants—in both cases exactly what would *a priori* be expected to happen, assuming the explanation of this segregation of the germ cells to be the right one.

I have, however, said enough to show that Mendelian phenomena, if applicable to man, must have a very practical bearing upon the problems of the heredity of disease. And in connexion with disease and Mendelian laws there is a well-known example in the vegetable kingdom which is pregnant with suggestions as regards disease in man. Certain strains of wheat are very liable to the attacks of the fungus which produces the disease known as "rust"; other strains of wheat are immune to this fungus. Now if these two strains are crossed the resulting hybrids are found to be all susceptible to rust; but if these susceptible hybrids are self-fertilized, seeds are produced which give rise to dominant "rusts" and recessive immune plants in the usual proportion of 3 to 1. Thus an innate quality, such as immunity to a certain disease, is seen to be a characteristic which obeys Mendelian laws, at any rate in wheat. Such an instance is very unlikely to be isolated, and it is not going too far to say that it is extremely unlikely to be confined to the vegetable kingdom; and it has significant bearings not only on the heredity of disease in man, but also on the heredity of immunity. For after all that is the great point of interest—How far are Mendelian phenomena applicable to man? Now, this question has only been asked since the beginning of this century, so that the opportunities for observation have been so far limited, and the opportunities for deliberate experiment, even if utilized, have scarcely had time to produce results. That they do not always hold, at any rate in their full simplicity, is shown by the fact that the offspring of Mulattoes or Eurasians who have respectively intermarried do not, I believe, show any tendency to return to the pure black or white skins of their grandparents. But, on the other hand, Mendelian rules can often be found to apply in the descent of certain human characteristics, such as the presence or absence of pigment on the front of the iris which constitutes the essential difference between light and dark eyes, and in the descent of certain human diseases and abnormalities. Pedigrees have been constructed of families in which occur brachydactyly, arrested development of fingers, split hand and foot, keratosis palmaris, ptosis, night blindness, colour blindness, hereditary chorea, and some others.

Most of these are somewhat rare conditions, and when the abnormal individual married the mate was generally a normal; it has been found that the resulting offspring have some been normal and some abnormal, and did not show a mixture of normal and abnormal characters. If this only occurred in a few instances, it could be interpreted as the result of so-called *exclusive or unilateral inheritance*, where as regards any given character one of the parents is absolutely prepotent over the other, but the results, the absolute normality or absolute abnormality among the offspring, are not isolated instances, but are the rule, and, moreover, as regards numbers, closely approximate to Mendelian rules. As has been seen, pure or extracted dominants and pure or extracted recessives breed quite true for an indefinite number of generations, so that, if these diseases are inherited according to Mendel's laws, the number of abnormal offspring of abnormal parents compared with the normal should show neither increase nor decrease with the progress of time. This is chiefly a matter for future investigation, but some pedigrees have been already drawn out for keratosis palmaris and plantaris, and for epidermolysis bullosa, in which it holds good. The question of Mendelism as applied to the inheritance of disease in man is still *sub judice*, but the evidence in its favour is steadily increasing.

When endeavouring to trace out exactly the part played by heredity in the causation of disease there are several fallacies which must always be carefully guarded against. For instance, the recurrence of the disease may be due simply to the recurrence of a changed or morbid environment, of a changed or morbid functioning. For example, the recurrence of anthracosis in generation after generation of colliers is no example of heredity, but simply of the power of a morbid environment to impress a diseased modification upon the organism; and in the days when chimney sweeping was strictly an hereditary trade the recurrence of scrotal carcinoma was in no sense due to heredity, but merely an example of the recurrent power of morbid functioning.

One of the most subtle of fallacies is failure to draw a clear line between inheritance and prenatal infection. Since it is logically correct to say that the organization of the fertilized ovum is both the potential inheritor and the actual inheritance, and since with our present knowledge one is justified in saying that actual microbes are never present in either sperm cell or egg cell, it is also indisputably correct logic to affirm that no microbic disease can ever be in the strictest sense inherited. In this respect the use of the word "congenital" is responsible for much laxity of thought. The human placenta is usually a reliable filter, but it is not a perfect one, and the fetus *in utero* can be directly infected by the microbes of certain infective diseases which during gestation are affecting the mother. With syphilis, for instance, this is comparatively common. In tuberculosis it is now known to be exceedingly rare. Up to 1905 there were not more than twelve well-authenticated cases in man, and seventy in animals, which showed clinical evidence of tuberculosis at birth. It was at one time considered probable that this rarity of clinical signs at birth simply meant that the disease or the bacilli

were present, but remained for a longer or shorter time inactive or latent. As regards animals, this has practically been proved to be incorrect, for it may be stated as the result of experiment that newborn calves born of tuberculous parents do not react to tuberculin, and also that such calves, when carefully guarded from infection, do not develop the disease. It would be a most interesting experiment if all newborn babies, born of parents suffering from active tuberculosis, were subjected to some quite innocuous tuberculin test such as that of von Pirquet or Moro. Children, again, have been born with small-pox or with anthrax; there is the historical instance of Sir Thomas Watson's gyp at Cambridge, whose child had vigorous paroxysms of whooping-cough on the day of its birth: but these are all instances of contagion, not of heredity. To the lay mind this might possibly appear to be a distinction but not a difference, but in real attempt to estimate the exact part played by heredity in the causation of disease, this distinction between it and pre-natal infection must be kept clearly in mind. All microbic diseases are, strictly speaking, accidental; they are injurious modifications which affect the body cells of the parents, but they cannot be supposed to specifically affect the parental germ plasm, and it is therefore impossible that there should be any specific inheritance of them. Yet at the same time it must be granted that there may be and often is a transmission of what may be called the secondary effects, the consequences, of microbic disease. A mother whose general health is undermined by the toxins of tubercle, of cancer, of syphilis, is likely enough to bear weak and ill-developed offspring. But even here, again, one must remember what frequently happens in the case of a tuberculous mother who becomes pregnant; it is not rare to see the tuberculous process arrested during the pregnancy and a healthy well-developed child born, almost as if Nature were making a special effort on behalf of the future life, and then when the pregnancy is over the maternal tuberculosis flashes up again into more disastrous activity. Though the germ plasm cannot be specifically affected by microbic disease in the parents, it must be granted that its general well-being, its vitality, may be injuriously affected by a poisoning of the health of the parents, and probably the ovum with its larger amount of cell protoplasm is more likely to suffer than the spermatozoon. But all this indirect affection of parental constitution and germ plasm is not true specific inheritance.

Again, in thinking over the transmissibility of disease, the distinction between a disease acquired by the parent during his or her lifetime and a disease innate to the parents must be remembered. To take a simple instance: A man in whom the tendency to drink to excess is innate has a definite mathematical chance of transmitting a like tendency or some other related psychosis to his offspring —we have probably all known examples of this—but such a parent is quite unable, fortunately, to transmit the cirrhotic liver which he has acquired through his indulgence in alcohol. Is there a case on record of the child of drunken parents entering this world with an atrophically cirrhosed liver? Surely not; yet if it were possible the opportunities have been ample.

To appreciate fully the significance of this division of disease into two classes—innate and acquired—one should have a clear idea of the fundamental biological difference between acquired characters or bodily modifications and true germinal variations. Unfortunately the one term "variation" has been used to express both these forms of divergence from the parental likeness, and much confusion has arisen.

As a necessary condition of life all organisms within limits are plastic and modifiable—the bodily form inherited from the parents may be altered for better or for worse by changes in the environment or in the functioning. Such modifications may be defined as "structural changes in the body of an individual organism, directly induced by changes in function or environment, which transcend the limit of organic elasticity and persist after the inducing conditions have ceased to operate." They are also known as acquired characters. Examples of such bodily modifications in the pathological field are to be found in such diseases as general paralysis of the insane due to the slow action on the cerebral cells of the toxins of syphilis, as the dropped hand and foot of peripheral neuritis, hammerman's cramp, and writer's palsy. The whole present trend of biological opinion is to the view that such modifications or acquired characters are not transmissible; however permanently or injuriously they may affect the cells of the body they leave untouched the germ plasm in the reproductive cells, and hence they can form no part in an inheritance.

Such deviations from the normal type, however, as haemophilia, pseudo-hypertrophic paralysis, polydactyly, colour blindness, have a much deeper-seated origin. They are due to innate peculiarities in the germ cells, to the excess or deficiency of some determinant constituent of the chromosomes; they are the expression of some variation in the constitution of the germ plasm; they are similar to mutations or the sudden arisings of new varieties or species among plants and animals, and they tend to breed true for an indefinite number of generations of the descendants of the person in whom they first appeared. Many of these diseases have been found to obey Mendelian laws in their appearance in successive generations. In estimating the heritability of a disease we must distinguish between diseases which are of the nature of acquired characters or bodily modifications, and as such are not transmissible, and diseases which are the outward expression of true germinal variations and are, as such, transmissible.

When we speak of the inheritance of disease, what is it exactly that we mean? Putting aside obvious malformations, such as hare-lip or excess or defect in the number of parts, disease is a condition or process—not a thing, not an entity; the actual gouty or tuberculous condition, for example, is not transmitted. What is transmitted is no more than the predisposition for the gouty, tuberculous, or other condition of disease to be developed later on in life, provided the suitable environment is furnished for it. It is in great measure true to say that there is no such thing as inherited disease; there is at the most inherited predisposition. It is not mere unpractical metaphysics to talk about inherited predispositions instead of inherited diseases, for such predispositions imply some physical or chemical peculiarity in the organization of the germ cells—the presence of some determinant towards disease, or the absence of some determinant towards health.

The items going to make up an inheritance need not all be expressed in development, and they will not be expressed if they do not receive proper nurture and stimulus. Given a strong tuberculous predisposition in any child, that predisposition could never develop into tuberculosis if it were possible to prevent the bacilli supplying the necessary stimulus. A knowledge that the item in the inheritance is predisposition rather than disease makes us concentrate our attention on the environment, so as to make it unsuitable and to ensure the absence of the stimulus.

If we admit the inheritance of predisposition to disease, can we deny the inheritance of the converse to predisposition—namely, immunity? For, putting aside the gorgeous terminology of the new pathology with its anti-this and anti-that, its stimulins, lysins, agglutinins, etc, what is immunity except the "other side of predisposition," just the reverse of the shield? But as in the case of disease, so with immunity, we must distinguish between innate immunity and acquired immunity. There is no doubt as to the inheritance of innate immunity. The negro is immune to malaria and yellow fever; certain breeds of sheep to anthrax. Instances could be multiplied. But there seems no evidence for the inheritance of acquired immunity. The young of certain of the mammalia (for example, rabbits), whose mothers have been artificially immunized, in some instances are likewise born immune; but as with the above-quoted examples of contagious disease, this is presumably an immunity acquired by contagion, the antibodies reaching the fetal blood by way of the placenta, and I do not know of any records of acquired paternal immunity having been transmitted.

The study of heredity is at the same time depressing and encouraging. It is depressing because there is no getting away from the fact—I think it has passed out of the limbo of theory—that there does exist some actual physical protoplasmic basis through which disease or the tendency to disease is handed down from germ cell to

germ cell—even if we do not admit the whole Weismannian conception of chromosome, id, determinant and biophor—and that no amount of care or education, no change in environment, no choice of function can, so far as we know, alter by one jot or one tittle the constitution of the germ plasm that each of us has received from parents and may transmit to offspring. It is encouraging because more and more it becomes clear that whatever of abnormal is contained within the inheritance it is not disease so much as predisposition to disease, and that each item of an inheritance requires suitable environment in which to appear, and suitable functioning for the encouragement of its growth.

The deliberate improvement of the health of the race by restriction of the mating of those whose inheritance is physically or morally bad, except in extreme and obvious cases, is an idealistic dream for a future that may never arrive; the world gets more, not less, sentimental as it grows older. Though the courts of Science may give a verdict in favour of voluntary selective mating, the judgement would be always liable to be reversed in the appeal court of Love. Even the problem of what characteristics to select for breeding purposes would be no easy one. The wheat and the tares in the germ plasms of mankind are so inextricably intermingled, so mutually related, that the time is far from ripe for attempting to anticipate the Judgement Day. Oliver Wendell Holmes used to speak of "pathological piety" and "the tuberculous virtues." How pathetic and how true those expressions are; how desirable it would be, and yet how impossible it probably is, to perpetuate the mental and moral excellence apart from the weakly soil in which it flourishes!

At any rate for the present, efforts towards raising the general health of the race should be directed towards improving the environment and providing for proper functioning. Heredity, function, environment, they have been aptly likened to the Norns or Fates who, according to the old religions, directed and guided human life from the cradle to the grave.

## CLINICAL ILLUSTRATIONS OF THE USE OF THE CYSTOSCOPE. THE URINE SEPARATOR, AND THE URETERAL CATHETER.

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THE following cases are intended to illustrate the use of the cystoscope, the urinary separator, and the ureteral catheter.

It is hardly necessary to say that the cystoscope and its adjuncts do not render obsolete or supersede the older methods of clinical investigation. A careful analysis of the history and symptoms and a painstaking clinical examination are as necessary as ever. In some cases the results of this investigation afford evidence so plain and positive that the indications for operative or other treatment appear to need no reinforcement; but even in such cases it is seldom that the cystoscope will not furnish further evidence of importance, particularly with regard to the condition of the kidney on the side opposite to that indicated by symptoms. Again, although it is seldom that a complete clinical survey fails to find any indication of renal disease when this is present, yet cases are not uncommon in which the symptoms point so predominantly to the lower urinary tract that without cystoscopic evidence the disease may be erroneously referred to this region when the real seat of the mischief is renal. Or, conversely, disease in the bladder may be erroneously referred to the kidney, on account of the symptoms to which it may give rise. A stone, for example, impacted in the lower end of the ureter generally gives rise to vesical symptoms, such as painful and frequent micturition, and, if pus is also present, a purely clinical investigation often leads to an erroneous diagnosis of cystitis. The same error may also be made in cases of tubercle of the kidney when the disease affects the lower part of the ureter and the trigone. On the other hand, tumours of the trigonal area sometimes cause occlusion of one ureter, and the symptoms may then, in the absence of cystoscope examination, be referred erroneously to the corresponding kidney.

For the diagnosis of the source of blood found in the urine the cystoscope is absolutely indispensable. The following are two typical cases.

CASE I.—*Villous Tumour of Bladder.*

A man aged 44 had noticed blood-stained urine at intervals of two or three weeks for eighteen months, accompanied by pain on micturition and suprapubic pain independent of micturition. No lumbar pain. Small blood clots had sometimes been observed in the urine. The clinical examination was negative, except for the presence of blood in the urine and the absence of pus or casts. The cystoscope showed a small villous tumour near the right ureteral orifice, which was successfully removed by a suprapubic operation.

CASE II.—*Villous Tumour of Bladder, simulating Prostatic Haemorrhage.*

A man aged 74 suddenly began to pass copious blood, partly clotted, and causing pain in the penis. He had had several less severe attacks of haematuria during the previous twelve months; he had also nocturnal frequency of micturition for a year or two. He was admitted to hospital after six days of unremitting haemorrhage, blanched from loss of blood, and with the bladder distended. The age and symptoms rather suggested haemorrhage from an enlarged prostate; but after washing out a large quantity of clot from the bladder there was seen by the cystoscope a small villous tumour surrounding the orifice of the right ureter. Fragments of growth were also found in the bladder washings and identified microscopically. The growth was removed suprapubically, together with the intravesical part of the ureter, and no further haemorrhage occurred. Death occurred from exhaustion, and the kidneys were found normal, except for some dilatation of the ureters. The prostate was small.

The first of these cases was clinically a typical case of bladder tumour, and in precystoscopic times no surgeon would have hesitated to open the bladder on the strength of the history and symptoms. Nevertheless, in many cases presenting similar symptoms the bladder has been opened and nothing abnormal found, because the source of the haemorrhage was in reality renal. In other cases the source of the blood has proved to be a bladder tumour which was quite inoperable. Errors of this kind the use of the cystoscope would have avoided, and at the present day I suppose no competent surgeon would think of opening the bladder without previous cystoscopy, except in a clear case of calculus or enlarged prostate. Even in these two diseases preliminary cystoscopy often affords valuable information which it would be foolish not to obtain, since it may be made under the anaesthetic in a few minutes immediately before the operation.

The next example is a case of symptomless renal haematuria—that is, a case in which blood in the urine occurs without any other symptom to give a clue to the source, and even operation fails to disclose any abnormality of the kidney.

CASE III.—*Symptomless Haemorrhage from Granular Kidney.*

A married woman, aged 29, passed without pain a considerable quantity of blood in her water one month before admission to hospital. The haematuria continued thereafter, with the exception of a single day. There were no other symptoms, and the general health, except for some anaemia resulting from the haemorrhage, was good. There was nothing to indicate the source of the haemorrhage. With the cystoscope the trigone and ureteral orifices appeared normal, but jets of dark blood were seen issuing from the right ureter only. With Luys's separator rapid rhythmic drops issued from both catheters, but those from the right looked like pure blood, those from the left were pale green. Methylene blue was administered previous to the examination. The right ureter was catheterized, and grouped drops of blood-stained urine flowed freely from it.

The right kidney was explored. It was of normal size, markedly lobulated, and had a few cysts on the surface the size of a split pea. The pelvis was incised, and the interior of the kidney palpated with the finger and bimanually. In many places the substance was found to be thinner than natural, otherwise no abnormality was felt. The kidney was partly decapsulated. One rubber catheter was passed a few inches down the ureter, so as to block it towards the bladder, and a second sutured with catgut, with its tip just inside the pelvis of the kidney. These were left in for two days, during which the urine was clear, and that drained from the one catheter was blood-stained. After removal of catheters the bladder urine became smoky for a few days, but then became and remained clear. The patient was discharged well, and had no recurrence when last heard of.

In the following cases the clinical history and symptoms pointed more or less clearly to calculus in one kidney, and cystoscopic examination, separation of the urines, or catheterization of the ureters, was carried out in some or all of them for the purpose of further localizing the

disease, or ascertaining the function of the opposite kidney.

CASE IV.—*Stone in the Kidney: Nephrotomy.*

A man, aged 41, had had pains in the right side and "in the privates" for six months before admission to hospital. During this time the urine had been bloody and contained a thick deposit. Neither kidney could be felt. By Luys's separator equal amounts were obtained in each tube, but in the right alone were red blood cells found on microscopic examination of the deposit. At the operation a small crystalline stone the size of a broad bean was found in the pelvis and removed by an incision directly over it.

CASE V.—*Stone in Kidney: Obstruction of One Ureter: Nephrotomy.*

A police officer, aged 52, was thrown across a chair while struggling with a man. Soon after and during the following four years he suffered much from pain in the left loin and groin, especially after walking. During these attacks he had blood in his urine. By Luys's separator normal urine was collected in the right tube with a regular rhythmic flow. From the left side the flow was *nil*. At the operation the left kidney was found greatly distended and thinned, with a cicatrix at its upper pole. A large calculus weighing 294 grains lay in the pelvis of the ureter, with a projecting process, which on slight descent of the calculus would completely block the ureter. At the previous cystoscopic examination the orifice of the left ureter was noted to be dilated.

CASE VI.—*Obstruction of Kidney Pelvis by Stone: Nephrectomy.*

A man, aged 27, had suffered as long as he could remember from pain in the right renal region. Blood was noticed in the urine on two occasions after an attack of pain many years ago. Cystoscopy showed that the orifice of the right ureter was large and patulous, and no urine was seen ejected from it. The left ureteral orifice was normal and ejected normal jets. By Luys's separator 1 c.cm. of normal urine was collected in the left tube, containing no blood or other cells. In the right tube were only two small drops of colourless fluid containing numerous red and white blood cells and a few epithelium cells. At the operation a large chronic hydronephrotic kidney was found full of small calculi, with one large one blocking the pelvis of the ureter. The kidney was removed and the patient made a good recovery.

Cases IV, V, and VI were all characteristic cases of renal pain and tenderness, confined to one side, accompanied in all with blood in the urine. In several the pain had the typical characters of renal colic. On the clinical evidence alone calculus was in each case the most probable diagnosis. In each case some confirmatory evidence was found by cystoscopic examination or by separation of the urines, and in most of them valuable indication of the secretory activity of each kidney. The ejection of normal urine in regular rhythmically grouped drops from Luys's separator may be taken as strong presumptive evidence that the kidney, if not sound, has at any rate a substantial proportion of sound tissue. When this result is obtained on the unaffected side—that is, in a case in which the symptoms are unilateral—little fear of renal insufficiency need be felt. When there is also from the affected side a free and regular flow of urine, it may be safely assumed that the kidney substance on that side is not extensively destroyed, nor the lumen of the ureter obstructed, even though the urine contains signs of disease in the form of blood or pus.

The following cases of hydronephrosis or pyonephrosis afford illustrations of the use of the cystoscope or the separator:

CASE VII.—*Hydronephrosis: Nephrectomy.*

A man, aged 23, had suffered for three years from intermittent pain in the left loin. An indistinct resistance was felt in this region, and tenderness on pressure. The urine contained no pus, blood, or albumen. There was some frequency of micturition, both day and night. With Luys's separator normal urine, with normal rhythmic flow, was collected from the right side; nothing at all from the left. The left kidney was found a mere sac distended with clear fluid, and was removed. The patient made a good recovery and remains in good health.

CASE VIII.—*Hydronephrosis: Nephrectomy.*

A youth, aged 19, had been subject for three years to attacks of pain in the left loin, shooting into the left testicle, and made worse by exertion. The urine contained pus. By the cystoscope the left ureteral orifice was seen to be dilated. Using Luys's separator for ten minutes, 3 c.cm. of urine were collected from the right side, 1.8 c.cm. from the left. The right urine, which was straw coloured, contained a microscopic trace of pus and 1.8 per cent. urea; the left was pale and turbid, and contained much pus, and only 0.4 per cent. urea. The left kidney was found to be merely a thin-walled cyst, and was removed. The patient was in good health a year later.

CASE IX.—*Pyonephrosis: Drainage of Ureter.*

A man, aged 46, while at work was seized with stabbing pain in the right loin and groin. The pain lasted several hours and then subsided. Several similar attacks followed. The pain was often started by passing water, but there was no urethral pain. For three days before admission to hospital he vomited everything taken. On examination there was tenderness in the right loin, but the kidney could not be defined. On rectal examination the prostate was found somewhat enlarged, and an elastic swelling was felt in the position of the lower end of the right ureter. Cystoscopically the mouth of the right ureter was enormously dilated, and shreds of lymph were attached to its margin. The left ureter could not be seen. The man's general condition made an exploration of the kidney too serious a procedure; accordingly it was thought better to expose the right ureter in the iliac region. It was found dilated to the size of a man's thumb, and distended with pus. It was traced upwards to the lower end of a kidney about twice its natural size and downwards into the pelvis. An opening was made into it, and several ounces of thick pus evacuated; no stone was felt with a probe. The ureter was drained by means of a catheter, secured by a stitch in its wall. A ureteral fistula remained for some weeks, but eventually the whole wound closed soundly, and the man was seen several months later, when he was at work and in fair health. He was admitted a year later with vesical symptoms, and a large phosphatic calculus was removed by suprapubic section. In the centre of the stone was found a uric acid nucleus ½ in. in diameter, which no doubt lay in the ureter or kidney and was overlooked at the first operation.

CASE X.—*Pyonephrosis: Profuse Haemorrhage: Nephrectomy.*

A married woman, aged 25, had a normal confinement six weeks before her admission to hospital. She got up on the sixth day; she then had abdominal pain, distension, and vomiting, with a temperature of 102° F. After these symptoms subsided, a large mass was found projecting from below the liver. The day before her admission, while engaged in housework, she was seized with pain in the right side of the abdomen, vomited, and passed blood with her urine. Four days later dark jets of blood were seen with the cystoscope issuing from the right ureter. The urine at this time looked like pure blood. Luys's separator gave a striking difference in the two collecting tubes, the right containing deep blood-stained urine, the left a larger quantity of clear urine. The abdomen was distended and tender, with a large indistinct tumour on the right side. Permission to operate was only obtained ten days later, when the general condition was critical, and a rapid evacuation and drainage of a huge distended pyonephrotic kidney was all that could be safely performed. The kidney sac was successfully removed a month later, and the patient made a good recovery.

In these cases the cystoscope and separator obtained diagnostic evidence of the utmost value, and enabled nephrectomy to be performed without misgivings as to the capacity of the remaining kidney.

The next case is an example of the use of cystoscopy and separation of urines in tuberculosis of the kidney.

CASE XI.—*Tuberculous Kidney: Nephrectomy.*

A girl aged 20 had pain in the left side for four years, at times severe. Much pus and a little blood had been observed in the urine. A large, tender kidney was felt in the left loin, nothing in the right loin. She was stated to have once passed a stone per urethram. Cystoscopy showed a small, retracted ureter on the left side, and near it a small round ulcer with ragged edge. The mouth of the right ureter appeared rather large and patulous, but frequent and free jets of clear urine were seen issuing from it. With Luys's separator there was normal ejection from the right catheter of urine well stained with methylene blue. From the left side were collected only a few drops of blood-stained fluid, containing also pus cells. The left kidney was found a typical example of an advanced stage of tuberculous disease with cavities. It was removed, and the patient made a good recovery. The urines were not separated in this case, as the patient's condition made it inexpedient to sit her up.

The following is an example of absence of one kidney:

CASE XII.—*Absence of One Kidney: Observations by Cystoscopy and Separator.*

The left kidney, somewhat enlarged, but otherwise healthy looking, of a woman aged 23 was fixed by the ordinary lumbar operation on account of pain and extreme mobility. The kidney continued to be painful and tender, as well as obviously enlarged. It was exposed a second time without finding any cause for the pain or any sign of disease. Twelve months after the first operation an exploratory incision into the kidney itself was contemplated, and the patient was anaesthetized for this purpose. On cystoscopic examination the trigone and two ureteral orifices were found normal. Nevertheless, the large size of the left kidney, without any sign of disease in it, made me suspect the possible congenital absence or atrophy of the right kidney. The catheter cystoscope was not at the time available, and Luys's separator cannot be used satisfactorily under an anaesthetic. The patient being already anaesthetized, instead of again exploring the left kidney, I made the usual lumbar incision on the *right* side, and searched thoroughly without finding a trace of a kidney. Nevertheless, it is probable that a rudimentary kidney existed, for by subsequent use of

Luys's separator a fraction of 1 c.cm. of colourless fluid containing a trace of urea was collected from the right side. In the same time 10.5 c.cm. of normal urine were collected from the left kidney.

The above cases illustrate most of the common and some of the rarer practical problems of renal surgery, and the assistance afforded in their solution by the use of the cystoscope, the ureteral catheter, and the urinary separator. A few concluding observations may be made on the relative value of these three methods.

Leaving on one side the use of the cystoscope in discriminating between affections of the kidneys and affections of the bladder, a use which is too obvious to need further argument, we have in the visual inspection of the trigone and ureteral offices a simple means of obtaining direct evidence of the greatest value of the patency or occlusion of the ducts of the kidney, and of the secretory activity of each organ. The appearances of the mouths of the ureters and of the neighbouring mucous membrane often enable us to diagnose tuberculosis of the kidney, or impaction of a stone in the ureter. The previous ingestion of methylene blue or other pigment enables us to watch the force and frequency of the jets expelled from each ureter, and the degree of pigmentation of the jets and the rapidity with which the pigment is excreted from the blood gives us some idea of the functional capacity of each kidney. The use of the ureteral catheter carries the investigation a stage further, for it not only enables us to test the patency of either ureter with precision, but to collect and analyse the urine of each kidney separately. The latter object is attained, though perhaps less perfectly, by means of the urine separator of Luys. Of other separators I have no experience, but as to the relative advantages of ureteral catheterization compared with Luys's separator, the following remarks may be made.

In the first place, as regards ease of application, there is little to choose between the two methods, but on the whole catheterization is the easier, as it is certainly the more precise. The separator requires a preliminary cystoscopy in order to exclude conditions of the bladder which may introduce fallacies in the use of the separator; and since cystoscopy and catheterization can be carried out with the introduction of a single instrument, that is a distinct advantage over the separator. Catheterization of the ureters, again, is possible under general anaesthesia while the use of the Luys's separator is not, so that the former operation can be performed immediately preceding an operation on the kidney, and with the same anaesthetic. This is not, however, generally a procedure to be recommended, for two reasons. In the first place, general anaesthetics nearly always diminish or inhibit the secretory activity of the kidney; and, in the second place, it is not advisable to catheterize both ureters immediately before an operation on either kidney for fear of adding to the inhibitory effect of an operation on both. Whatever method of separation be employed, it is better to carry out this procedure on a separate occasion and employ only a local anaesthetic, which is quite efficacious for the purpose. By means of Luys's separator properly used I have satisfied myself that reliable observations can be made as to the patency of the ureters and the relative functional activity of the two kidneys, with little pain, in five to ten minutes.

Nevertheless, both care and experience are required to avoid certain fallacies, and I think it is probable that those who are familiar with the use of the cystoscope will prefer to employ the ureteral catheter in most cases.

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A DISCUSSION on the ventilation and warming of public buildings will be opened at the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W., on Wednesday next, at 8 p.m., by the Rev. J. B. Lock, Bursar of Caius College, Cambridge, who will read a paper on the ventilation of the large Examination Hall, Cambridge.

WE are glad to note that the trustees of the Carnegie Hero Fund, at a meeting on January 27th, decided to grant an allowance of £35 per annum (with a supplement of £15 for the first year in consideration of special circumstances) to the widow and family of Dr. John Herbert Wells, formerly of the therapeutic inoculation department of St. Mary's Hospital. An obituary notice recording the circumstances of his death will be found at page 1322 of the JOURNAL for October 30th, 1909.

## RESULTS OF THE TREATMENT OF FRACTURED LIMBS IN WORKMEN.

BY ARTHUR P. GIBBONS, M.B.LOND., M.R.C.S.,
LONDON, E.C.

A PAPER read by Mr. Mansell Moullin before the City Branch of the British Medical Association,[1] drawing attention to modern methods of treating fractures by early mobilization and massage, or wiring these cases in which good position could not otherwise be attained, and a remark he made that few statistics are available to show how long men are kept from work after fractures, led me to examine a series of cases which have come under my notice during the last three or four years, or have been treated in the City Police Hospital in the last few years (I am indebted to Mr. Gordon Brown, City Police Surgeon, for these). My own cases have been in connexion with workmen's compensation and have been treated at various hospitals; they show that the aforesaid modern methods, which have been advocated at any rate for ten years, have not yet become very completely established.

The patients are all men working in arduous and hazardous employment, they have to be really "fit" before going back to work, and their lot on half wages is often hard when inability to work is prolonged, entailing much poverty and semi-starvation for themselves and families.

There are several causes which, "under the Act," at times contribute to the inordinate length of time away from work. These are:

1. Unwillingness to return and the hope of getting a lump sum by hanging on. Men belonging to clubs are sometimes better off "resting."
2. Malingering, not common in connexion with fractures.
3. The average working man shirks the pain necessary to get an injured joint or stiff tendons in working order; the pain to him is an all-sufficient reason for not using them and he clings to his crutches or stick.
4. Light work, which would often be good for them, is hardly obtainable nowadays. Employers have shifted their responsibilities on to insurance companies and say that if a man is not able to do his full work he is no good to them.
5. If insurance companies adopt the "strong hand" policy and stop payment, the workman has no difficulty in getting a sympathetic solicitor to run his case, one or two sympathetic doctors to swear to his incapacity or permanent impairment, and a sympathetic judge who usually fears to interfere with the award, and who in his anxiety not to wrong the working man often wrongs the employer; it must be remembered he has only a layman's knowledge of surgery. Employers or insurance companies therefore often submit open-eyed to imposition, and settle cases with lump sums rather than risk expensive and very unpromising lawsuits.
6. Workmen are often afraid to start working because they fear that they will find themselves unable to continue, and they wrongly imagine that compensation which ceases if they start work cannot be obtained again if they are obliged to give up.
7. There are doctors who, ignorant of the provisions of the Workmen's Compensation Act, frequently urge their patients to insist on their imaginary "rights" and get full wages, lump sums and so forth, and will not allow them to go back to work when they should do. One of my cases, recorded below, was recently offered work by his employers which he could have done in absolute safety, but he was unwilling, and said he would consult his doctor; his doctor refused to allow him to begin. This man is partly neurasthenic, but certainly physically able to do the work, and it would be best for him. In my opinion, the actions of these medical men are not in the best interests of their patients.

Apart from these contributory causes, however, there are many cases in which disability is genuine; some cases are inevitably crippled for life, but there are others in which it is possible that better methods might give better results; fractures of the thigh are notably unsuccessful, and fractures involving the ankle-joint give very poor results, tendon and joint stiffness usually being responsible. It is not my object to point the way. Others well qualified by experience and position have done and

are doing so; but are the present methods as employed in the great hospitals satisfactory? One great defect in the present system is that fractures are "no man's cases." They are usually first admitted into a ward, but as soon as possible they are fixed in a plaster-of-Paris splint and transferred to the out-patient department under a fresh surgeon; after a series of junior house-surgeons or clinical assistants the patient is apt to tire of a succession of doctors who "don't know his case," and gives up attending; he then often goes on for months visiting a private or club doctor occasionally, chiefly for the purpose of obtaining a certificate.

I would suggest that a good change would be for the surgeon in charge of beds to make a point of seeing his fracture cases in the wards once a month till cured (if susceptible of cure); they could be sent to special departments for special treatment; facing the "calamities" monthly would be a fine stimulus to fresh efforts to obtain better results. There is good surgery to be done in the treatment of fractures, as there is in major operations, but do the fracture cases get their fair share of it? It would be very interesting if a surgeon would bring forward a series of fractures of the femur treated by some special method of his own with the result of no deformity, the patient being fit for work in four months, or a series of Pott's or Dupuytren's fractures with the same good results obtained, say, in two and a half to three months. Massage departments in hospitals are unfortunately overcrowded, and there is a tendency for patients to get too little of it or too infrequent applications to derive full benefit. I do not think I am unfair in saying that the majority of cases give themselves all the massage they get, using liniment supplied by the hospital they attend.

I append a list of cases of fractures of the limbs, with results so far as I have been able to obtain them. One or two I have not been able to follow up, and others are still incapacitated after various periods. I have as far as possible named the hospitals at which they were treated and the treatment adopted; for this I have had to depend on the patients' statements, so there may be inaccuracies. My numbers are not sufficient to be of value for statistical purposes, but they show some things.

Of 10 patients who suffered fracture of the thigh only 3 are likely to do their own work again; of these 3, 1 was an impacted fracture and another of doubtful nature, probably a splintering of the bone.

The 23 patients with leg fractures examined under the Workmen's Compensation and Employers' Liability Act show 11 incapacitated for various periods exceeding a year, and 1 settled with a lump sum after forty-five weeks' half wages. Among the others there are several in which the final result is not yet known.

It is noteworthy that the police cases show much better results. They are mostly fractures not involving joints; they are picked healthy men of good type; there is no wages question; they are under one surgeon during their incapacity; there is no shortness of food and worry about ability to maintain homes and families, and most of them get a period of residence at a convalescent home, and on their return to duty they can, if necessary, be spared from work which is too trying for their condition.

More than half of the 14 patients with fractures of the arm show incapacity extending for six months and upwards, in some the impairment is probably permanent. Prolonged and even permanent incapacity is very common after shoulder injuries, especially when the patient is anything over middle-age.

My list shows that the plaster-of-Paris splint, severely condemned by the "new school," is not dead yet.

1. J. G., aged 50. Fracture of the lower third left thigh; there was 1½ in. shortening, knee weak, and capsule loose. He had been three weeks in King's College Hospital, and had worn a plaster-of-Paris splint; was still receiving half wages fourteen months after accident; prognosis doubtful.

2. A. C., aged 31. Fracture of lower third thigh; there was no shortening, but he could not flex knee or climb ladders; he had been six weeks in Rochester Hospital, wore plaster-of-Paris splint four weeks and back splint five weeks; twenty months after accident he was still on half wages, and was not likely to do his work again.

3. C. A., aged 30. Fracture of right thigh, with "several breaks in several places; *x* rays showed fractures at neck and lower down"; there was 1½ in. shortening, and lump felt at upper third anteriorly; he had been in the Metropolitan Hospital for eight weeks; still on half wages twenty months after accident.

4. J. S., aged 56. Fracture of the lower third left thigh, compound fracture above ankle-joint, and other injuries; 2 in. to 3 in. shortening; swelling and ulceration at ankle six months after the accident; he was in Guy's Hospital for eleven weeks; three and a half years after the accident was still on half wages.

5. M. O., aged 24. Fracture of the right thigh (no evidence); patient said that a splinter of thigh was removed; fractured skull. No shortening or deformity; if there was a fracture it was probably incomplete; he had been in Charing Cross Hospital; walked with support thirteen days after accident; head symptoms predominant; twenty-one weeks' half wages and a lump sum.

6. A. W., aged 34. Impacted fracture at neck of the left thigh; ⅜ in. shortening five months later; hip movement very limited; he had been in the London Hospital; twenty-four weeks' half wages and a lump sum equal to twenty more.

7. H. O., aged 53. Fracture of the upper third of the left femur; 1½ in. shortening; large antero-external lump; one year after accident could walk two to three miles with a stick; he had been in Greenwich Infirmary for ten weeks and three days; fifty-two weeks' half wages and good lump sum in settlement; he was not likely to do his own work again.

8. W. M., aged 39. Fracture of left thigh (middle), and concussion; no shortening; lump felt at middle of bone; one year after ¾ in. wasting of thigh, and no confidence to use it. He had been in Middlesex Hospital for eight weeks; plaster-of-Paris splint removed eleven weeks after the accident; fourteen months after accident still half wages; should get well.

9. W. J., aged 44 (window cleaner). Fracture of right thigh near trochanter, fracture of humerus and (?) dislocated shoulder, ½ in. shortening sixteen months after accident, very little shoulder movement, limited hip movement; he was in St. Mary's Hospital for six weeks; plaster-of-Paris splint; seventy-eight weeks' half wages and lump sum; never likely to be fit for old job, partly on account of shoulder.

10. W. C., aged 40. Compound fracture of the left thigh (middle) comminution, 1½ in. shortening, big lump hampering quadriceps action, knee-joint swollen; he had been in St. George's Hospital; patient said it had been wired; six months after accident could hardly bend knee; not likely ever to do ladder work again.

11. W. J. W., aged 34. Fracture of the left ankle, position good; he had been in St. George's Hospital, in bed fourteen days; had plaster-of-Paris splint five weeks; he had nineteen weeks' half wages.

12. F. B., aged 48. Fracture of right fibula (?). Nine weeks later swelling and pain at ankle; no deformity; no splints; he was in St. Bartholomew's Hospital for sixteen days, and after that looked after himself; four months later he was still on half wages.

13. W. H. M., aged 56. Fracture of the right os calcis and (?) external malleolus; no deformity; he had been in Westminster Hospital; plaster of-Paris one month; six months later on half wages; could walk well, but (?) ladder work.

14. H. N., aged 42. Fracture of the ankle (? internal malleolus), through ladder falling across his ankle; eight months after the accident said he could not work; rather neurasthenic; he was treated at St. Mary's Hospital, bound up ten days and had massage; had crutches for seven weeks; eleven months after the accident was still on half wages; I thought he should be at work.

15. M. W., aged 60. Compound fracture of the right ankle, fractured skull, and other injuries; seven months after the accident using stick and no confidence in ankle, fair movement but some swelling; other injuries make it unlikely he will be able to do his own work again.

16. C. G., aged 52. Both ankles fractured, Dupuytren; injury to right hip; both feet everted, left flat, right less so, lot of swelling in the right; treated at King's College Hospital; he was permanently crippled; employer's liability action.

17. W. F., 46. Fracture of bones in foot; a year afterwards said his foot was very painful; there was no deformity; treated at Seamen's Hospital, and later at St. Thomas's physical exercise department; fifty-four weeks after accident, still on half wages; ? genuine.

18. J. M., 40. Pott's fracture; good position; one year after accident very limited ankle movement; treated at London Hospital; sent home in back and side splints and footpiece four weeks; plaster-of-Paris splint six weeks; fifty-nine weeks' half wages, and final settlement equal to fifteen more; was not a trier.

19. A. R., aged 32. Fractured tibia just below right knee; good position; treated at Lewisham Infirmary; splints at first, plaster-of-Paris splint five weeks; ten weeks after accident looked like being about two months; lost sight of.

20. T. W., aged 65. Fracture of right fibula near ankle; albuminuria; nine months later ankle stiff and swollen; fourteen months later (?) good bony union, fibula spring deficient; treated at St. Bartholomew's Hospital; plaster-of-Paris splint eight weeks and three days, then fresh plaster-of-Paris splint three weeks and three days; twenty-five months after accident still on half wages.

21. W. C. Fracture of os calcis, left, and concussion; no deformity; twenty weeks after could not walk far for pain; was inclined to neurasthenia; treated at St. Mary's Hospital for eight days; plaster-of-Paris splint five weeks; massage later; twenty-three weeks half wages and lump sum; foot not right when examined, but head symptoms predominant.

22. G. T., aged 34. Fracture of left ankle, tibia (?), just above ankle; external malleolus enlarged; outward displacement of

foot: ten months later very limited ankle movement; treated at Croydon General Hospital for three weeks; plaster-of-Paris splint (? time); forty-five weeks half wages and lump sum; not a good result; bad fracture; not likely to do own work again.

23. G. C., aged 43. Fracture of left ankle (? tarsal bones); swelling of foot; no bony deformity noted; treated at St. Thomas's Hospital; plaster-of-Paris splint seven or eight weeks; twenty-six weeks' half wages, and lump sum equal to more than that.

24. A. R., aged 56. Fractured tibia just above left ankle; slight concavity just above ankle; good ankle movement; in Guy's Hospital eleven days; out-patient about five months; fifty-five weeks half wages, and settlement by lump sum; would not try.

25. H. A. P., aged 39. Fracture of right ankle, good position; six weeks after accident there was pain on moving the joint; treated at St. Thomas's Hospital; sent home in splints; splints three weeks; lump sum paid under employer's liability; lost sight of.

26. M. Pott's fracture; not fit for work fifteen months after accident; position good; ankle stiff; examined in court under employer's liability.

27. C. O., aged 40. Compound fracture right tibia and fibula just above ankle; left leg at ankle (? Dupuytren); right: deformity above ankle; left: inward displacement of foot; malleoli widened, very little movement; treated at St. Bartholomew's Hospital; plaster-of-Paris splints removed about three months after accident; seventeen months after accident using two sticks; left foot not likely to get good enough for work.

28. J. S., aged 35. Fractured tibia and fibula, just above ankle, fairly good position; treated at London Hospital, in bed twenty-four days; plaster-of-Paris splint forty days; twenty-six weeks' half wages.

29. A. H., aged 34. Fracture of left leg above ankle; position good; could not feel fracture site; treated at Royal Free Hospital three weeks; plaster-of-Paris splint on a month; fifteen months after the accident still on half wages; nine months after leg fit at any rate for ground work, but patient neurasthenic.

30. R. W., aged 49. Fracture right fibula about ankle; position good; eleven months after good movement, some pain; should do ground work; in St. Bartholomew's Hospital fourteen to twenty-one days; plaster-of-Paris splint six weeks; eighteen months after accident still on half wages.

31. G. F., aged 40. Fractured patella; good result; treated at Hampstead General Hospital; wired; twenty-eight weeks' half wages and lump sum.

32. J. B., aged 46. Fracture of right ankle (? compound); position good; limping badly and using stick sixteen months later; treated at St. Mary's Hospital; splints (anaesthetic); in bed five weeks and three days; plaster-of-Paris splint six weeks; sixteen months after accident on half wages, and likely to be some long time.

33. A. E. H., aged 30. Fracture of right ankle: thirteen months later wasted leg and thigh muscles; both feet flat; treated at St. Bartholomew's Hospital; fracture (?) diagnosed by $x$ rays eleven months after accident: ? tubercle in ankle and tarsal joints; using crutch and stick thirteen months afterwards and foot very painful.

34. Constable P. Fracture of right tibia and fibula just above ankle; treated at St. Bartholomew's Hospital; plaster-of-Paris splint at once and then police hospital; two days later plaster-of-Paris splint removed and back and side splints applied; off duty eight weeks and two days.

35. Constable S. Fractured tibia and fibula half way down shaft; ankle joint not involved; wrestling accident: treated at police hospital, back and side splints; off duty sixteen weeks and three days.

36. Constable F., aged 29. Fractured tibia and fibula 2 to 3 in. above ankle; tibia oblique sharp point under skin on inner side above ankle; treated at the police hospital; off duty thirteen weeks, then went to full duty, but allowed to sit down for a few minutes occasionally for first two months.

37. Constable B. Fractured fibula, external malleolus; wrestling accident; treated at police hospital; massage from second day, passive movement from fifth; plaster-of-Paris splint from fourteenth day for three weeks; off duty eleven weeks.

38. Constable P. Fracture of upper third of fibula; wrestling accident; treated at police hospital; back and side splints; off duty nine weeks and four days.

39. Constable T. Fractured tibia and fibula, lower fifth; first treated at Guy's Hospital, then police hospital four days, then convalescent home, and again police hospital fourteen days; off duty twelve weeks and six days.

40. Constable M., aged 44. Compound fracture of tibia and fibula, lower third; wound just behind tibia; run over by cab; treated at the police hospital; off duty thirteen weeks but not doing quite full ordinary duty till eleven months after accident.

41. Constable M. Fracture of middle shaft of tibia: horse fell on him, fibula not broken; treated at police hospital, back and side splints; off duty thirteen weeks.

42. A. H., aged 51. Fracture of neck of humerus; no deformity noticed; full passive movements painful three months after accident; treated at Guy's Hospital for two months, then massage; thirty-two weeks' half wages.

43. F. J., aged 49. Fracture of "cup of right shoulder"; no deformity; two months later wasting of muscles: full passive, but little active movement; treated at St. Bartholomew's Hospital; passive movement commenced at five weeks; twenty-six weeks' half wages.

44. C. P., aged 48. Compound fracture of right arm; callus felt middle of forearm; slight concavity forwards; treated at Middlesex Hospital; splints six to seven weeks; surgeon told him to do light work at the end of three months; twenty-three weeks' half wages and lump sum.

45. G. M. Fracture internal condyle humerus and at wrist; tendons cut; left arm; some outward displacement of the hand: treated at Middlesex Hospital; gas twice for elbow movement; twenty-five weeks' half wages and lump sum; fit for light work.

46. E. M., 40. Fracture of left wrist "bone cracked," $x$ rays; no bony deformity, but severe injury to soft parts; lot of swelling and pain; treated at St. Mary's Hospital; six months after wrist rigid; no pronation and supination; looked hopeless; fifty weeks' half wages and big lump sum.

47. H. W., aged 36. Fracture of part of head of radius; $x$ rays; only capable of being diagnosed by radiography; treated at St. Thomas's Hospital; mobilization and massage; seen eleven days after accident; hospital people thought five or six weeks; employer's liability settlement.

48. C. D., aged 64. Fracture of neck of humerus; union good; some grating in the shoulder sixteen months after the accident; no deformity; could not use it; treated at Westminster Hospital, then the London; eight months' massage and a machine and movement; last three months, letting it go when seen by me; seventy-nine weeks' half wages and a good lump sum.

49. J. K., aged 38. Fracture of scapula; seven weeks after accident very poor shoulder movement; treated at Great Northern Central Hospital; eleven weeks' half wages, and lump sum equal to ten more.

50. B. H., aged 39. Fracture of lower end of right forearm by direct violence; fairly good position; three months after, some swelling about wrist, and wasting of forearm muscles; treated at St. Bartholomew's Hospital; Carr's splint four weeks, massage afterwards; seventeen weeks' half wages and lump sum equal to thirty more; work involves using heavy hammer for breaking concrete.

51. F. W., aged 43. Fracture of lower end of left radius; position good; five months later pronation and supination good; flexion and extension limited by pain in tendons; treated at West London Hospital; back and front splints; twenty-two weeks' half wages.

52. T. L., aged 48. Fracture of left humerus; ten months later no deformity; muscles good; limited shoulder movement; no treatment last six weeks; treated at Great Northern Central Hospital; forty-four weeks' half wages, and lump sum equal to at least twenty more.

53. W. G., aged 40. Colles's fracture; typical displacement; treated at St. George's Hospital; ether for setting; Carr's and back splints; mobilization and massage after third day; seven months later still on half wages; probably some permanent weakening.

54. Constable J. Fracture of forearm; both bones broken; treated at police hospital; went first to (?) St. Bartholomew's; seven weeks off duty.

REFERENCE.

[1] *Clinical Journal*, November 10th, 1909, p. 65.

# ON THE FUTILITY OF THE OFFICIAL TESTS FOR COLOUR BLINDNESS.

By T. HARRISON BUTLER, M.D.,

HONORARY OPHTHALMIC SURGEON, COVENTRY AND WARWICKSHIRE HOSPITAL.

FOR the past twenty years or more Edridge-Green has pointed out the utter inadequacy of the official tests for colour blindness, and his efforts have been seconded by many other ophthalmic surgeons both in this country and on the Continent and in America. In Germany, Nagel, who was colour blind, repeatedly stated that from his own personal experience he knew how easy it is for an intelligent man to defeat many of the tests which to the lay mind appear to afford conclusive evidence of the presence or absence of defective colour vision.

The result of these efforts is so far very disappointing. Holmgren's wools are still scheduled as the official test both by the Board of Trade and by railway companies, and the examinations are practically always conducted by men who have no special knowledge of the physiology and pathology of colour vision. It is true that if a seaman is rejected he can appeal to a special court of examiners which includes a physicist possessing expert knowledge of colour vision, but what if he passes the tests conducted by laymen by inefficient methods?

The practical working of the system is a matter of common knowledge to all who have had opportunities of investigating the question. Signals are frequently overrun by engine drivers, and it is well known that the

**majority of railway accidents are caused by misinterpretation of signals. It is highly probable that some at least of these mistakes are due to the fact that individual drivers are colour blind, either because the tests were insufficient to exclude them when they joined the service or because they have subsequently acquired defective colour vision. To show that these fears are not imaginary, I shall shortly describe cases which have come under my notice during the past month. All are dangerously colour blind, and they would all easily pass the colour tests carried out by the company's inspector with the wools. One of them is still a locomotive engine driver, and is therefore an active danger to the travelling public.**

CASE I.—*Engine Driver: Colour Defect Congenital.*

An engine driver consulted me about his vision. He wished for reading glasses, and at the end of his examination confessed that he had difficulty in distinguishing the lamps, more especially if they were being swung. He had no difficulty in distinguishing a red light, or a green light when at rest, but he had great difficulty with the white lights, which sometimes looked red, at others green. He was uncertain about some of the purple lights which are used on the points and are lighted by an oil lamp, which often gives a feeble illumination.

He was found to be emmetropic, with some presbyopia corresponding to his age. When shown a red, green, blue, or purple hank of wool he immediately named it correctly. When asked to pick out reds he did so easily, and did the same with definite blues and purples. He picked out a large number of greens without a mistake, but eventually included some greys.

It is quite obvious that he might quite easily pass such an inadequate wool test as this, and he had in fact been able to get admitted into the railway company, and had quite easily passed the yearly colour tests carried out by the inspectors.

He was then asked to sort out and grade all the wools in the box. All manifest reds and browns were grouped together, but browns and greys were mixed with the green, dark blue with browns and greys, light blue with mauve, light pink and blue, and pink with light brown. Sage green was placed with yellow, yellowish-green with yellow, pink with grey, and yellow-green with grey. So that in the case of this man a *careful* examination with the wools would have certainly discovered his defect, and yet he had passed the railway test regularly.

The man was now confronted with the Edridge-Green colour perception lamp, with the following results. All reds, however much obscured by neutral tinted glass, were at once correctly named as red. Signal green was always called green, but pure green was almost always called red. Violet was invariably correctly named. Orange was called red, pale blue green, and white light was called red or green. If shown green and then white, the white was called red, and if white followed red it was named green. It is quite obvious, then, that this engine driver is a *dichromic* who only possesses red and violet in his spectrum separated by a band of various shades of grey. He is a man who, if driving a locomotive on a misty night, might easily make a fatal mistake, although he is hardly likely to miss a red light, for his spectrum is not shortened at the red end.

CASE II.—*Acquired Colour Blindness: Partial Optic Atrophy.*

This man, a painter by trade, has always been able to match his colours correctly till recently, when he began to make slight mistakes. When first seen he was found to be suffering from partial optic atrophy, the result of lead poisoning. His vision was then $\frac{6}{9}$ and $\frac{6}{9}$. When last seen, he had given up painting for four months, and his sight had improved to $\frac{6}{6}$ and $\frac{6}{6}$.

His colour sense was carefully tested, as when first seen it had been found to be defective. The wools were named and matched in a way which was truly marvellous, when the real state of his colour vision is known. He, however, mixed greens and blues and purples and greys. Light green, grey, and mauve are confused. But, probably because of his long training in colour values as a painter, he could easily pass the colour tests imposed by a lay examiner. When examined with the lamp, with the diaphragm fully open, and using both eyes, he utterly failed to name correctly a single colour! Bright red was green, green red, purple red, and blue green. The lamp proved conclusively that he would be a most dangerous man as an engine driver or a seaman.

This was a case of acquired colour blindness due to optic atrophy, but similar conditions are found in many other diseases, especially in diabetes, which is a disease to which engine drivers are especially liable. No central scotomata could be detected with Bardsley's scotometer, nor were the other symptoms comparable to those found in tobacco amblyopia.

CASE III.—*Partial Optic Atrophy and Retrobulbar Neuritis.*

This was a man who some twenty years ago suffered from syphilis. He now has V.R.=$\frac{6}{36}$, V.L.=$\frac{6}{18}$—that is to say, he can get about well, and had he been a seaman or a railway man he could for some time have performed his duties before his defective vision was detected. The examination of his colour vision was highly instructive. He sorted, named, and matched all the wools without the slightest error or mistake.

The lamp test showed that his colour sense was dangerously defective. The right eye, examined with a fully opened diaphragm and no tinted glasses, saw no colour at all except red, and when the diaphragm was narrowed he even failed to see the red. The left eye saw red, violet, and purple, but could not appreciate green at all. White was seen as red.

Bardsley's scotometer showed on the right side a central scotoma for all colours of very irregular shape, and in addition several detached islets where colour was not perceived. The left eye showed a central scotoma for green. There was no contraction of the white fields. The condition is one of partial optic atrophy and retrobulbar neuritis. The right disc shows intense temporal pallor; the left is hyperaemic.

This individual would be a very deadly man in charge of a steamer, and yet his defect could easily have arisen after he had obtained all his certificates. The case shows the absolute necessity for a yearly examination of all mariners holding certificates.

CASE IV.—*Partial Optic Atrophy.*

A well-educated man, aged 44; V.R.=$\frac{6}{5}$, V.L.=$\frac{6}{6}$; has one diopter of hypermetropia, but no glass improved the vision of the right eye. There was temporal pallor of the right disc; the left was normal. Tested with Bardsley's scotometer there was no central scotoma, but a small paracentral one, and the perimeter showed slight nasal contraction of the field on the right side. The left was normal. There is some slight nyctalopia; he is a little dazzled by bright light, and sees well in twilight. He neither smokes nor drinks. An examination of the nose showed a deviation of the septum to the right, giving rise to much obstruction in the upper part of the nose and to retention of secretion. This deformity was probably the result of a fall from a tree when a lad, when he pitched upon his nose.

The condition is one in which certain of the tracts in the optic nerve have been temporarily or permanently put out of action, probably on account of pressure upon the optic nerve by a distended sphenoidal sinus or inflamed posterior ethmoidal cells, a defect from which any engine driver might suffer.

Tested with wools he picked out reds and greens correctly, and when asked to match wools made no glaring or obvious mistake. Tested with the lamp he utterly failed to distinguish red from green with the right eye. He called bright red red or green alternately, and signal green was similarly treated. He was able with the left eye to name all the colours correctly, but when shown yellow or orange after green he called it red, after red he called it green. When the red light was diminished in intensity he did not see it at all. Obviously he would not be a safe man to drive an express train, for he could easily mistake a white light for a green one, and a dim red light he would not see at all, for he has shortening of the red end of the spectrum.

CASE V.—*Retrobulbar Neuritis due to Alcohol and Tobacco.*

This case is the most important of all. He suffers from retrobulbar neuritis, the result of excessive indulgence in alcohol and tobacco. His vision has sunk to $\frac{6}{9}$ and $\frac{6}{9}$ within the past few months.

He picked out and matched the coloured wools with ease and certainty because his peripheral vision was good, but when tested with the lamp he could see neither red nor green at all, although he had good vision for blue and violet. The scotometer showed a large central scotoma for red and green.

Such cases must be very common at sea where men have plenty of time to smoke excessively, and also drink heavily as well. They cannot be unknown on the railway, and may explain many of the cases in which red signals are overrun. The mystery shrouding the Shrewsbury accident could be elucidated upon the theory that the driver had central scotomata for red and green, and so never even saw the red lights arrayed against him. If he had these scotomata he would easily pass the railway tests, but the lamp would at once have unmasked him.

**These five cases are simply adduced to show that in a large class of defects of the colour sense the ordinary official tests can be evaded, but that the Edridge-Green colour perception lamp at once detects them.**

**I do not suggest that the wool tests applied correctly would not have been sufficient in the first two cases to unmask the abnormality in question, in fact they clearly did so, yet one of these men, an engine driver, *at work to day on the railway*, had passed several times, and yet he is a dangerous dichromic.**

**The conclusion is that the Board of Trade should be compelled by public opinion to insist that the obsolete wool test be abandoned and that the examinations be made with the Edridge-Green lamp, which could be made up for railway use at a cost of about £1. This lamp is simple to use and it gives results which for all practical purposes are accurate. If a man passes the lamp test he is safe on the railway. All seamen and railway men should be examined at least once a year by an expert.**

THE Society of the Lying-in Hospital of New York has received from Mrs. Helen Hartley Jenkins the sum of £5,000 to enable the hospital to make a special study of puerperal fever.

# AN INTERESTING CASE OF CONGENITAL CATARACT.

BY CHARLES KILLICK, M.A., M.D., F.R.C.S.,
HONORARY SURGEON, KENT COUNTY OPHTHALMIC HOSPITAL.

**MISS H., aged 36, was first brought to the Kent County Ophthalmic Hospital on October 23rd, 1909, not on her own initiative, as she regarded her case as hopeless, but by one of my old cataract patients, who had recently undergone a successful operation, and naturally took an interest in the afflicted woman.**

*Previous History.*

The patient's father was born blind, and was operated upon as a baby by the late Mr. Woolcott at the Kent County Ophthalmic Hospital. She has a brother, aged 34, who was operated upon at the Moorfields Hospital when 3 years old for cataract. Another brother and three sisters, who are all younger than herself, are stated to have nothing wrong with their eyes. She herself was born blind, and when 3 months old was brought to the Maidstone Hospital where the left eye was operated upon by Mr. Adams, unfortunately without success, and no further steps were taken until she was between 4 and 5 years old, when she and her brother were taken to Moorfields Hospital and operated upon several times by the late Mr. George Critchett. She cannot remember seeing as a result of these operations, a statement which is corroborated by a lady fully acquainted with her past history, but nevertheless somewhat difficult to reconcile with a note upon the old Moorfields paper, dated August 20th, 1877, where it is expressly stated that all details of the right fundus could be clearly seen. The lady in question subsequently took her on several occasions to see Mr. Critchett privately, but the latter never prescribed glasses—saying that it would be useless to do so. Apparently the only benefit which the patient received consisted in the fact that she was thenceforth able to distinguish between certain colours, especially if bright; for example, she could, in certain lights, make out that grass was green, and could also tell when she was wearing a red dress.

When 9 years old she was admitted into the School for the Indigent Blind, Southwark, and remained there till 1901—that is, for nineteen years altogether. When 12 years old she suffered from a severe inflammation of the right eye, with the result that it became worse, and she has remained ever since in her present helpless condition. While in the institution she was taught how to use her hands and to find her way about unassisted in places with which she was familiar, her knowledge of the outside world being limited to what she was able to perceive by touch and sound. From 1901 up to the present time she has lived at home in Maidstone, helping her mother as much as she is able by knitting, and has sought no further advice about her eyes.

*Condition when first Seen.*

Examination of the eyes showed that they were habitually directed downwards, exhibited slow lateral nystagmus, and were so covered by the upper lids that only about half to two-thirds of the corneae were left exposed. The left eye was hopelessly disorganized, totally blind, and in an advanced condition of phthisis bulbi. The right eye, on the other hand, though appearing somewhat sunken and smaller than normal, the cornea only measuring about a centimetre in diameter, was much more hopeful in appearance. The cornea was transparent over its whole extent, except at one spot near the outer margin, where the scar of a needle puncture was visible; the anterior chamber was of average depth, and the iris appeared healthy, but was so drawn upwards, as a result of some previous operation, that not a trace of a pupil could be seen. The tension of the eyeball was T — ?. Vision amounted to perception of light, but I found on trying the projection of light test in the dark room that the retina was perfectly sensitive and functional throughout its entire extent.

*Operation.*

Further examination having convinced me that an iridotomy could be done, and feeling that it would probably be of benefit to the patient, I accordingly advised her to consent to operation.

The operation was performed on October 29th, 1909, under adrenalin and cocaine. A small incision having been made with a keratome at the upper corneal margin, a pair of de Wecker's scissors were introduced, and iridotomy was easily performed; the iris immediately gaped, and a second incision, so as to complete the Λ-shaped section, was thus rendered unnecessary; there was no loss of vitreous. Both eyes were then bandaged, and the patient remained in bed for three days. No inflammation followed, and there was hardly a trace of redness throughout. On October 31st the case-book records that "the patient says she can see to get about. She was discharged from hospital on November 8th.

*Present Condition of the Eye.*

Careful examination of the eye on December 4th, 1909, reveals the following state of affairs: An elongated oval slit, about ¾ cm. in length and about 2 mm. across at its widest part, traverses the iris in a downward and slightly inward direction, a little to the inner side of its centre. (See diagram.) If the eye is examined by oblique focal illumination, a small blood clot is noticed in the centre of the aperture, while above and below this the space is partially occupied by fragments of lens capsule. Through the upper part of the opening, which is, however, habitually covered by the upper lid, a dim reflex is obtained, but no fundus details can be made out; vision, however, is not improved if the patient raises the lid with the fingers. As a +11 D. lens enabled the patient to see large objects a little better, it was prescribed for constant wear.

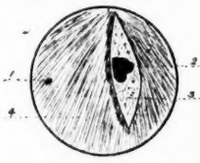


Diagram of cornea magnified two times. 1, Needle puncture; 2, remains of clot; 3, remains of capsule; 4, iris.

**The increase of vision, then, to the patient, if measured by the ordinary standard of sight testing, does not appear to be very great; she is enabled to find her way about alone, to perceive objects dimly, to distinguish colours, and to count fingers with hesitation, but from her own point of view the gain is very great, and she says that her sight is better now than it has ever been in her life. Whether, later on, the blood clot will be absorbed by natural processes only time will show; but probably a further operation for tearing the capsule, to be undertaken at some future time—perhaps in six months—would, if successful, result in a still more definite improvement in visual power.**

# A CASE OF ANEURYSM IN A WOMAN.

BY
H. G. FREAN, M.B., B.C.CAMB., M.R.C.S., L.R.C.P.,
*With a Pathological Note by* Dr. GIBSON.

**THE following case, presenting some difficulties in diagnosis, and also some interesting points in the course of the disease, seems worth reporting.**

Mrs. C., aged 65, was a gaunt, almost emaciated looking woman, accustomed all her life to the usual hard work of the poorer classes. She could not remember ever having a day's illness; she had brought up a large and apparently healthy family, and had had no miscarriages or stillbirths.

In August, 1908, I attended her for severe paroxysms of pain in the left side of the chest, which came on at irregular times of the day or night independent of any apparent cause. They were severe enough to make her cry out, and lasted "a minute or two." After about a fortnight they ceased, and she never had a recurrence. The condition of the alimentary and nervous systems calls for no comment.

I found the following physical signs when I first saw her: Pulses equal, small, irregular, and averaging 80. The arterial wall was not thick nor the course of the artery tortuous. Respirations quiet and usually 20. The apex beat was in its normal place. The chest wall seemed slightly fuller on the right side than the left. The sternum and front of the chest were visibly thrust forward at each beat of the heart. Pulsation was visible in the first four spaces on the right side for 2½ in. from the mid-sternal line. This pulsating area was dull to percussion, and merged directly into the liver dullness below. The lower margin of the liver was 2 in. below the costal margin, and was strongly thrust down by each heart beat. On auscultation at the apex both sounds were clearly heard. Over the pulsating area the first sound was continued as a short soft bruit; the second sound was sharp and clear. The air entry seemed little better at the right than the left apex. Other extrinsic signs of aneurysm, such as unequal pupils, tracheal tugging, etc., were all absent.

At the end of December, 1908, I noticed visible pulsation in the intercostal spaces between the spine and the vertebral border of the left scapula. The spaces were absolutely dull to percussion, and on auscultation a faint systolic bruit was heard. The pulsation increased in force during the next month, and then slowly diminished. By the end of April the pulsation and the systolic bruit in this position had quite disappeared, and only the dullness to percussion remained. The other physical signs remained as when I first saw her. In May she began to suffer attacks of dyspnoea, and spent most of her time lying curled up on her left side. She died quietly on June 19th, 1909.

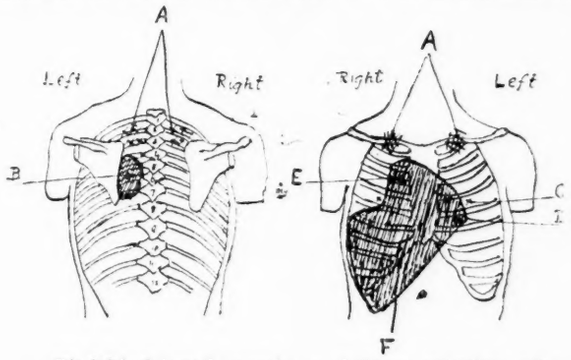
PATHOLOGICAL REPORT BY DR. GIBSON.

The body was that of an emaciated woman. There were adhesions in the right and left pleural cavities. The heart showed one milk spot posteriorly. There was slight hypertrophy of the left ventricle, but no other change in the cavities, valves, or walls of the heart. At the base of the aorta was a large patch of atheroma, swollen, soft, and whitish, but showing no parallel ridges. The coronary arteries showed patchy atheromatous change. The first part of the aorta was enormously dilated; the rest of the course of the thoracic aorta to about 2 in. above the diaphragmatic opening formed a huge

aneurysmal sac having compressed the left lung in front of it, and become attached thereto. The greater part of the cavity of the aneurysm was filled with laminated clot. The blood channel penetrated the clot posteriorly, and where the descending aorta began the degenerated wall formed the posterior boundary of the channel. No part of the thoracic aorta except the ascending part was normal to the naked eye. The lung was firmly bound to the wall of the aneurysm, and showed numerous scattered patches of grape-like tubercles. The liver on cross section presented numerous white, firm, opaque, triangular masses not larger than 3 or 4 mm. across, embedded in the upper part of the organ. They came into relation with the capsule, but this was not thickened. The kidneys showed very early sclerotic change. In the left was a small cyst the size of a pea containing a jelly-like substance. The suprarenals were normal. No abnormal change was detected in the pancreas or bowels,

*Microscopically* the aorta was in an advanced state of mesaortitis; in parts there was little of the normal tissue left, and very little of the elastic tissue. The masses in the liver were granulomatous. They were all connected with Glisson's capsule. Many showed an increase of small bile ducts, and some of these presented advanced catarrh. The whole substance of these areas was permeated with round cells, epithelioid cells, and connective tissue cells in various proportions. Necrotic patches were seen in nearly every one of the areas. In parts there were many new blood vessels. No micro-organisms could be detected by the ordinary methods of staining, and no tubercle bacilli could be found after a careful search. The rest of the liver tissue was very hyperaemic in parts, and showed much increase in intracellular connective tissue. The arteries occasionally had thickened walls, but there was no marked change in the direction of endarteritis obliterans.

The case presents many interesting features besides the uncertainty of accurate diagnosis. Statistics show that aneurysm in women, as compared to men, is about in the




A, Diminished breath sounds; B, dullness, pulsation, soft systolic murmur in December, dullness only in April; C, nipple; D, apex beat; E, pulsation, dullness, soft systolic murmur, ringing second sound; F, transmitted pulsation. The shaded area shows absolute dullness.

proportion of 1 to 10, though a good many practitioners answering offhand would put down the proportion very much smaller.

The absence of a clinical history of syphilis, as compared with the *post-mortem* findings, is perhaps now common enough.

It is surprising, however, that with such a large tumour none of the usual pressure signs or so-called extrinsic signs of aneurysm could be obtained. It is difficult to understand how a tumour that reached from the front of the thorax on the right side to the back of the thorax on the left side, did not yet appear to interfere with, for instance, the oesophagus and the act of deglutition.

A point of great interest is that we were able to watch the growth of the aneurysmal sac and also its healing. I think it not unfair to assume that the few isolated attacks of pain in August, 1908, marked the time when the main dilatation began to bulge back into the left lung. If so, we can allow about three and a half months for this dilatation to reach the back wall, and another three and a half months before it was finally filled up with clot. In addition we must remember that the wall of the aneurysm was composed of degenerated and thickened aortic tissue. I do not know what information there is on the time taken for arterial walls to hypertrophy, and for an aneurysm to grow a certain size, or for a laminated clot to be formed.

It was further of interest that the apex beat was not displaced, and that, in spite of the enormous size of the aorta, even in its ascending portion, there was no regurgitant murmur at the aortic orifice, but, on the contrary, a sharp clear second sound.

## SEVERE ANTE-PARTUM HAEMORRHAGE DUE TO SPONTANEOUS RUPTURE OF VAGINAL VARIX.

BY

C. E. PURSLOW, M.D., M.R.C.P., and GUY J. BRANSON, B.A., M.D.LOND.

THE case appears to be worthy of record, in view of the prominence given by all writers to placenta praevia and accidental haemorrhage as being practically the only forms of haemorrhage occurring spontaneously in the later months of pregnancy. In all the authors consulted, the only possibilities really entertained appear to be these two.

Mrs. J., aged 27, was in the thirty-second week of her first pregnancy, which had been quite normal in every respect up to November 15th, 1909. On that morning, when she first got out of bed, she was seized with profuse haemorrhage from the vagina, and very soon fainted. Dr. Branson was sent for, and on his arrival found her greatly collapsed, exsanguine, and with an almost imperceptible pulse; a chamber utensil half filled with firm blood clot was produced, as representing a portion of the blood lost. The os was found high up, and quite closed; there was a vertex presentation, but the head was free above the pelvic brim, and there was no evidence of labour; the haemorrhage had ceased.

Dr. Purslow was called to see the case in consultation, and found the patient as above described, though she had rallied slightly, and had a perceptible, though very feeble, pulse; the bleeding had not recurred.

Placenta praevia was diagnosed, and, as the patient could not obtain adequate nursing at home and lived some distance from Dr. Branson's house, it was decided that it would be advisable to remove her to hospital. The vagina was firmly plugged and the patient removed on an ambulance to the Queen's Hospital, where she was admitted under the care of Dr. Purslow.

The vaginal plug was removed next day and the bleeding almost immediately recommenced. A Sims's speculum was then passed and the vagina well cleansed with swabs preparatory to further treatment. On making an inspection, the blood could be seen coming in a profuse and steady stream from the vaginal wall at a point about 1½ in. above the urethral orifice and slightly to the left of the middle line.

The patient was at once taken to the operating theatre, anaesthetized, and placed in the lithotomy position. On making a careful examination of the vagina, the bleeding spot was seen to be a hole in a localized varicosity of a vein. This opening was seized with catch forceps and the varicose portion of the vein drawn away from the vaginal wall; an incision through the mucous membrane was made around it, and the varicose portion with one or two adjoining veins, which appeared to form a small plexus, was ligatured and excised.

The tissue removed was hardened, and on section showed distinctly the varicose enlargement of the vein, with marked thinning of the wall around the site of the rupture.

There was no further haemorrhage and the patient went on well, except that there was troublesome retention of urine, requiring the catheter, during the greater part of her stay in hospital. She went home on November 25th and was again under the care of Dr. Branson; her progress was uneventful and there was no further sign of haemorrhage. She was delivered on December 15th of a macerated fetus and made a normal recovery.

From the time of the haemorrhage she never felt any fetal movements nor could movements or fetal heart sounds be detected either during or after her stay in hospital.

It is worthy of note that careful examination failed to disclose varicosity of veins in the vulva or legs, or in any other part of the body.

The main point of interest in the case is its extreme rarity; reference to a large number of textbooks shows that they practically all mention a varicose condition of the veins of the vulva as a possible source of serious bleeding, especially in connexion with traumatism—for example, a kick; they also mention the occurrence of vaginal haematoma or thrombus from rupture of a vein in the vaginal wall during the second stage of labour and subsequent extravasation into the tissues; but the possibility of serious haemorrhage from rupture of a vein in the vaginal wall during pregnancy is not referred to; one exception is Hirst's *Textbook of Obstetrics*, where on p. 217 it is stated:

> Varices of the vagina may be dangerous if the veins are large and their walls thin. The part should be guarded from traumatism, which might result in rupture of the distended veins, and an alarming, if not a fatal, haemorrhage.

There appeared to be no traumatism in the case recorded above. The question of coitus was inquired into, and it was ascertained that the last act had taken place one week previously.

An extensive search into the periodical medical literature has failed to discover the records of a similar case.

The effect of the haemorrhage upon the child is interesting; it seems clear from the history that the child's death took place about the time of the haemorrhage, and it seems probable that it was directly due to the great loss of blood which the mother experienced.

# Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

### EMPYEMA TREATED BY ANTISEPTIC PLUGGING.

THE proper treatment of empyema is still a matter of discussion. My last eight cases I have treated by free incision of the chest wall, and completely removing the pus, by retracting the ribs, and raising the patient on his side so that the opening was in the most dependent position; the wound was then packed tightly with iodoform gauze. The plug was kept in for three or four days and then withdrawn, the patient being put in the same position to empty the pleural cavity. On the first occasion, in a favourable case, about a cupful of sanguinolent fluid will be discharged; in one case it was clear serum. The plug is renewed, and if the case goes well in another three days there will be about a teaspoonful of discharge, and the wound may then be allowed to heal. If there is still considerable discharge the plug should be renewed.

The object of the gauze plug is to disinfect the fresh wound after the passage of the pus, to prevent the ingress of other germs so as to avoid a mixed infection, and lastly, by firmly closing the wound, to prevent collapse of the lung, and, if much air has entered at the operation, to allow its absorption and draw the lung towards the side, and thus tend to abolish the cavity.

This treatment I found successful in cases of two or three weeks' standing. If a case is opened earlier a good result is not certain. In one case the pleural cavity became so fetid that gangrene of the lung was suggested; but after putting in a pinch of powdered potassium permanganate and leaving out the plug, the cavity soon became sweet. The case was a long time in recovering, and probably there was an opening into a bronchial tube. In another case, which was very slow, with no fetor but much pus, there was probably a small pin-point perforation in the lung, which caused a mixed infection from the lung, and so defeated the action of the plug.

These cases prove the existence of a pre-existing lung complication as the cause of empyema. Just as purulent peritonitis is in all cases the result of perforation, so is empyema the result of perforation.

An old empyema is very quickly cured by this method. There is none of the mess and repeated dressing required where a drainage tube is used, and there is the advantage of the contracting influence caused by the absorption of any enclosed air pulling the sides of the cavity together; or if the lung be bound down hopelessly, tending to produce a compensatory emphysema of the neighbouring lung so as to fill up the cavity, especially if the plug is covered with a pitch plaster so as to seal the wound hermetically.

On account of the possibility of a perforation it is better to wait two or three weeks till the lesion of the lung is healed before emptying the pus, unless its removal is urgent, when ordinary drainage should be employed.

PETER TYTLER, M.D.,
Honorary Surgeon, Ancoats Hospital, Manchester.

### IODINE CATGUT.

As there is so much interest in suture material I may perhaps give the method of preparation which I have worked out for absorbable iodine catgut, which is as follows: Catgut, defatted by lying in ether for twenty-four hours, is boiled in absolute alcohol for one hour. It is then laid in a solution made of 1 part of liquor iodi fortis (linimentum iodi) and 11 parts of water for one week. It is preserved in and used from a solution made of 1 part of liquor iodi fortis and 50 parts of rectified spirit.

Catgut must be boiled. It must be antiseptic.

Birmingham. FREDERICK EDGE, M.D.Lond., F.R.C.S.Eng.

# Reports of Societies.

## LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

*Friday, January 21st, 1910.*

J. B. HELLIER, M.D., President, in the Chair.

### *The Use of the Cystoscope.*

MR. J. F. DOBSON read a paper on the use of the cystoscope, illustrated by lantern slides. He said that of the various instruments the new Nitze cystoscope was probably the best; with a cold lamp, wide field, and clear definition, it was a great improvement on its predecessors. The Luys cystoscope was useful for the female. The various difficulties in obtaining a view of the bladder were discussed, and cases were described in which cystoscopy had been of great value in making a diagnosis. But, valuable as it was in bladder conditions, it was in the investigation of renal diseases that the cystoscope found its greatest field of usefulness. In cases of pyuria, haematuria, and bacilluria of doubtful origin accurate information could almost invariably be obtained. The presence of lesions of the bladder could be eliminated or confirmed; disease in one or both kidneys could be recognized, and if one kidney was disorganized the functional capacity of the other kidney might be ascertained. Nephrectomy, except in cases of extreme urgency, should never be performed, unless a preliminary cystoscopic examination had been made. Statistics bearing on this point were given. He said that the methods of investigating the state of the kidneys were: (1) Cystoscopy alone. This was thought to be insufficient. Details were given of a case of advanced tuberculous pyonephrosis in which the orifice of the ureter showed no abnormality. (2) Cystoscopy and the segregator. Though useful in some cases in slight haematuria and pyuria, the segregator was not reliable. (3) Chromocystoscopy (Voelcker and Joseph). This was a method of considerable value, which should, however, be supplemented by the use of the ureteral catheter. (4) Ureteral catheterization. The difficulties and dangers of this were discussed, and he considered that with proper care and the selection of cases the dangers were very small. He described the various methods of estimating renal permeability, such as the injection of methylene blue and indigo carmine, the production of phloridzin glycosuria, and of artificial polyuria, etc. Illustrative cases were related.

### *Abdominal Effusions.*

Dr. O. C. GRUNER read a paper on the laboratory examination of abdominal effusions. A description was given of several of the more reliable chemical tests which the author was accustomed to employ. The reactions for different varieties of albumoses were specially advocated, and it was pointed out that the richer the fluid poured into the peritoneum was in protein derivatives the more likely was the case to be one of cirrhosis of the liver or of cancer involving the peritoneum. One or two new applications of existing tests were referred to, and the value of a thorough analysis of these fluids was indicated.

### *Oxygenated and Warmed Ether as a General Anaesthetic.*

Mr. S. T. ROWLING showed an apparatus for the administration of oxygenated and warmed ether vapour for general anaesthesia. The apparatus consisted of a long cylinder containing ether, through which oxygen was passed. The gas was warmed, both before and after—before, in order that more ether vapour might be taken up, and after, to counteract the chilling of ether evaporation. The warmer contained hot water, and the gas passed through coiled tubes inside. The face mask had a hollow perforated frame through which the ether passed.

### *Epilepsy.*

Dr. E. F. TREVELYAN showed (1) two twin Jew boys aged 13, with typical epilepsy. They were the third and fourth of a family of ten children, all of whom had suffered from fits during teething. The fits, which had persisted in these boys and had recently become more frequent, appeared to be controlled by bromides. (2) A man, aged 41,

with severe paralysis agitans. The tremor began in the left arm five years ago, and soon spread to the left leg. The opposite side and the lower face became affected eleven months ago. He presented the typical facies and to a less extent attitude of the disease.

*Specimens.*

Mr. BASIL HALL showed: (1) A large *Sarcocele* weighing 5 lb. The tumour occurred in a man 62 years of age, and had been growing eighteen months. A complete pathological examination of the specimen had not yet been obtained, but it appeared to be a carcinoma undergoing colloid degeneration. The inguinal glands were infected, and had been removed with the tumour. There was no thickening of the cord. There was an enlarged gland in the opposite groin. (2) A *Fibrolipoma of the pharynx*, removed from a man of 60 years through a pharyngotomy opening. The patient had suffered from dysphagia for six months, and could only swallow fluids. The tumour was sessile, and attached to the lateral wall of the pharynx on the left side, an inch below the base of the arytenoid cartilages. It could be grasped with forceps through the mouth, but the pedicle could not be secured against haemorrhage. It was easily removed through an incision through the usual pharyngotomy route on the left side of the neck. Except for a slight secondary haemorrhage after a fit of coughing recovery was uneventful. (3) A *Hatpin, 3 in. long, removed through a low tracheotomy opening*, in a boy of 12 years. The boy was holding the glass head of the pin between his teeth when he made a sudden inspiratory effort and the pin disappeared. No symptoms occurred, but on placing him before an *x*-ray screen the pin could be seen lying in the left bronchus, the point being upwards close to the tracheal bifurcation. An attempt to seize the pin with forceps failed, but on allowing the patient to become semiconscious and then tickling the mucous membrane of the trachea the point of the pin appeared momentarily in the tracheotomy opening. On repeating this manœuvre the pin was seized and removed. The tracheal incision was sutured and the wound closed. Dr. F. W. EURICH showed a spinal cord from a woman, aged 50, who had suffered from pins and needles in hands and feet and weakness of the lower limbs. Patellar reflexes were increased; there was ankle clonus but no anaesthesia. There was very severe pain over the sacrum and in the groins. Later, paralysis of bladder with incontinence of urine and faeces. Could flex lower limbs but not extend them. Tumour of the lower lumbar cord was diagnosed, but at the autopsy a *tumour in the lower sacral cord* was found. Condition was too bad to admit of operation. Other cases and specimens were also shown by Dr. A. G. BARRS, Mr. B. G. A. MOYNIHAN, Mr. G. CONSTABLE HAYES, Dr. BRONNER, Dr. WARDROP GRIFFITH, Dr. OLDFIELD, Mr. LAWFORD KNAGGS, Dr. R. A. VEALE, and Dr. MAXWELL TELLING.

## BRISTOL MEDICO-CHIRURGICAL SOCIETY.

*Wednesday, January 12th, 1910.*

Dr. JAMES SWAIN, President, in the Chair.

*Infection of the Urinary Tract.*

DR. J. R. CHARLES, in a paper on some cases of *Bacillus coli* infection of the urinary tract, described a series of cases in which general symptoms with fever and rigors were present without obvious urinary symptoms. Bacteriological examination revealed the presence of *B. coli* in the urine. In treating the cases urotropine had been found valuable, and serum therapy was occasionally useful, but *B. coli* vaccines had not proved reliable, their effect being only temporary and relapses occurring. The PRESIDENT said he had seen vaccines prove effective. Mr. HEY GROVES described three groups of *B. coli* infection of the urinary tract: (1) Cases with general symptoms and absence of urinary symptoms, such as Dr. Charles had dealt with; (2) cases with irritable bladders, usually cystitis and occasionally ulceration of the bladder; (3) cases of advanced pyonephrosis or renal abscess. He related his experiences in operating on the last class. Dr. EMRYS-ROBERTS remarked on the acuteness of the cases Dr. Charles had described, and suggested that in acute cases treatment, especially with vaccines, was likely to prove more efficacious than in chronic cases. Mr. MUNRO SMITH dealt with the historical aspect of the subject, reminding the meeting that fifteen years ago surgery scouted the idea of infection of the urinary tract, save by catheterization. To Guyon was due the credit of first insisting on the possibility of direct infection from the intestinal canal. Dr. CARRY COOMBS spoke of *B. coli* bacilluria in children without urinary symptoms. In children urotropine was generally useless, but the cases could be cured by giving full doses of sodium citrate until the urine became alkaline. Dr. J. M. H. MUNRO described the vaccine therapy of mixed urinary infections, particularly cases in which *B. coli* was secondary to tubercle. Tuberculin injection should be first given, and later *B. coli* vaccine. He pointed out that the antitoxic serums were apt to produce severe constitutional symptoms, but vaccines were free from this drawback. Dr. MICHELL CLARKE discussed the mode of entrance of the infection. Dr. D. A. ALEXANDER described some similar cases.

*Jejunal Ulceration.*

Mr. C. F. WALTERS made a preliminary communication on jejunal ulceration, not post-operative, in which he directed attention to examples of catarrhal ulceration of the jejunum, sometimes terminating in perforation—a condition which appeared hitherto to have been undescribed and unexplained. The PRESIDENT mentioned that he had met with such a case occurring during the puerperium.

*Tumours of Bilateral Origin.*

Mr. ROGER WILLIAMS read a paper on malignant and non-malignant tumours of bilateral origin, in which he argued for a developmental predisposition to tumour formation. Dr. EMRYS-ROBERTS, Dr. MICHELL CLARKE, and Dr. J. A. NIXON discussed the paper.

## THE ROYAL SOCIETY.

*Thursday, January 20th, 1910.*

Sir ARCHIBALD GEIKIE, K.C.B., President, in the Chair.

*Pathology of Gastric Ulcer.*

Dr. C. BOLTON presented a progress report on further observations on the pathology of gastric ulcer. The production and properties of gastrotoxic serums, obtained by immunizing the rabbit with guinea-pig's gastric cells, had been described in four previous reports, and it was demonstrated that the ulcers produced by the serum healed within three or four weeks, if the animal were in its normal condition and fed on a normal diet. Since chronic gastric ulcer in the human subject is a common malady, and gastric ulceration is initially acute, it was considered that some unknown condition or conditions must be present which delayed the healing of these ulcers. It was, however, found on experiment that so long as the stomach emptied itself in the normal time it was impossible to delay the healing of gastric ulcer by increased or diminished acidity of the gastric contents or by feeding on infected food; the position of the ulcer in the stomach did not materially affect the result. The report now presented dealt with the effects of interference with the motor function of the stomach upon the healing of ulcer, the food and acidity of the stomach contents being normal. The gastric ulcers were produced in the cat by the local injection of gastrotoxic serum into the stomach wall, the serum being prepared by immunizing the goat with the gastric cells of the cat. Motor insufficiency of the stomach leading to retention of its contents, one of the commonest forms of indigestion of food in man, was produced by constricting the pylorus of the cat by means of rubber tubing, the ulcer then being formed on the anterior wall of the stomach. It was found that under these circumstances the healing of the ulcers was delayed for at least twice the normal time. When the ulcers eventually healed up the regenerated mucous membrane was of a lower type than normal. It might consist on the forty-first day of a single layer of cubical cells such as should be found on the tenth day of normal healing, or of glands formed entirely of duct epithelium. It was further found that the more sclerotic the base of the scar, the more badly developed was the mucous membrane. In certain cases the *normal* healing of the ulcers was occasionally delayed by necrosis of the granulation tissue forming their bases, or by excessive formation of fibrous tissue, and in these cases the mucous membrane was of the lower type. It was therefore considered that the delay in healing in motor insufficiency was an exaggeration of the condition occasionally seen in the normal state. Both conditions are due to digestion or irritation of the base of the ulcer leading to necrosis or increased formation of fibrous tissue, so that the regenerated mucous membrane is either unable to grow over it at all, or only consists of a single layer of cells, or of glands of a lower type than normal. When the base is excessively fibrous the glands have not a sufficiently vascular and cellular stroma in which to proliferate.

*Agglutinins.*

Drs. Georges Dreyer and J. Sholto C. Douglas presented two papers on agglutinins. The first dealt with the velocity of reaction in the "absorption" of specific agglutinins by bacteria, and in the "adsorption" of agglutinin, trypsin, and sulphuric acid by animal charcoal. The authors stated that though a fair number of observations existed as to the influence of time on the so-called adsorption processes—for example, the adsorption of a dye by a fibre (Bordet, Bayliss, etc.), proving that it takes a very considerable time before equilibrium is reached, the study of the time reaction in the taking up of agglutinins by bacteria had been confined to the observations of Eisenberg and Volk. These authors maintained that the velocity of reaction was extremely fast, and that equilibrium was reached in five minutes, even at a temperature of 0° C., and that no appreciable difference was to be found in the absorption velocity, whether the reaction took place at 0° C. or 37° C. The authors' results, which were contradictory to those of Eisenberg and Volk, were summarized as follows:

1. The establishment of equilibrium in the absorption of agglutinins by their specific bacteria is not attained, as stated by Eisenberg and Volk, in less than five minutes at 0° C., but takes a considerable time, since equilibrium is not reached at room temperature even in four hours.
2. The adsorption of agglutinin or trypsin by charcoal does not reach an equilibrium within four hours at room temperature, nor the adsorption of sulphuric acid by charcoal in twenty-four hours, or possibly even in forty-eight hours.
3. There is no justification for judging as to the nature of the interaction between an absorbing substance and a material absorbed, from the rapidity or slowness with which equilibrium is attained, as has been done by Arrhenius.

In the second paper, on the absorption of agglutinin by bacteria and the application of physico-chemical laws thereto, it was stated that Eisenberg and Volk, in 1902, were the first to make more or less exact quantitative measurements of the absorption of agglutinins by bacteria. They showed that if agglutinating serum were treated in varying dilutions with a constant amount of homologous bacteria, the amount of agglutinin taken away was not constant, but that in a concentrated serum the absolute amount removed was greater than in a diluted serum, whilst, on the other hand, the relative amount taken away in a dilute serum was much the greater. By taking the experiments of Eisenberg and Volk, Arrhenius showed the existence of a relation between the quantity of absorbed agglutinin, C, and of the agglutinin left in the fluid, B, and expressed this relationship in the simple formula $C=kB^n$. The result of the experiments by the authors might, on the other hand, be summarized as follows:

1. When an agglutinating serum in different concentrations is treated with constant amounts of bacteria, the quantity absorbed, C, may not only increase to a limit value, but may, when this point is passed, even decrease to zero when the concentration of the serum is further increased, which is quite different to the statement of Eisenberg and Volk.
2. It is impossible, from the greater or smaller size of the exponent "$n$" in the formula $C=kB^n$, to determine whether in the case of agglutinin we have to deal with an absorption or an adsorption process, as done by Arrhenius, as in both cases "$n$" may vary within nearly the same ranges.
3. The formula $C=kB^n$, proposed by Arrhenius to express the absorption of agglutinin by bacteria, as being a special example of the Guldberg and Waage law of chemical mass action, does not hold good either in the case of the absorption of agglutinin by bacteria, or of the neutralization of agglutinin by homologous bacterial filtrate.
4. The combination of agglutinin and bacteria is therefore not such a simple process as anticipated by Arrhenius, but is very possibly complex, and not improbably of the same nature as the interaction of bacterial toxins and antitoxins.

## OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

*Thursday, January 27th, 1910.*

Dr. G. A. Berry, President, in the Chair.

*Bilateral Ophthalmoplegia.*

Dr. F. E. Batten, in a note on a case of bilateral ophthalmoplegia in an infant, referred to a case of bilateral paralysis of the third nerves in an infant shown by Mr. Jessop at the meeting of the society on June 10th, 1909. The case he now reported presented very similar symptoms. The child, a male aged 10 months was the fourth of four children, the eldest of whom had died of meningitis. The child was quite well till 7 months old, when a squint was noticed. When 8 months old there was some weakness of the right side of the face. The child was otherwise quite well, and when first seen at 10 months of age was a plump, rosy-cheeked child. There was marked external strabismus, double ptosis, and paralysis of all the muscles supplied by the third nerves. The optic discs were normal. There was slight weakness of the right arm and leg, and a constant rhythmical movement. The cerebro-spinal fluid was found to contain tubercle bacilli, and a von Pirquet gave a positive reaction. The paralysis gradually extended, and the child died three months later. Optic neuritis never developed. The autopsy showed a tuberculous mass occupying the region of the corpora quadrigemina and tegmentum. From the symptoms—that is, the ophthalmoplegia associated with a rhythmic tremor—it was possible to arrive at an accurate diagnosis as to the situation of the lesion, and from the examination of the cerebro-spinal fluid an accurate diagnosis as to the nature of the lesion.

*Buphthalmos.*

Mr. Mayou showed a case of congenital anterior synechiae with buphthalmos. The patient was a male aged 7 weeks, strong and healthy, and showing no signs of syphilis. He obviously had very bad vision, but could see bright lights. There was well-marked nystagmus, and the right eye had excentric fixation for objects, but, as far as could be seen by focal illumination and ophthalmoscopical examination, presented no pathological change. The left eye was blind. It had the appearance of buphthalmos with bombé iris. The iris was closely applied to the back of the cornea, and at the pupillary margin it had not separated off from the corneal tissue and was adherent. Descemet's membrane covered the back of the cornea nearly up to the position where the iris was adherent to the cornea, but the membrane was entirely absent in the position of the adhesion and over the whole pupillary area. The iris was thin and attenuated, especially in its mesoblastic constituents. The angle of the chamber was perfectly formed. There had been a failure of the separation of the iris at the angle of the anterior chamber, which was occluded. There was no canal of Schlemm present. The ligamentum pectinatum was very imperfectly formed and the ciliary muscle ill developed. The suspensory ligament of the lens was absent. The lens itself was conical anteriorly, and, although it was adherent to the cornea, there was no anterior polar cataract or even wrinkling of the capsule. Posteriorly there was a large gap in the capsule, which was filled in by loose atypically developed fibrous vitreous, into which passed a persistent hyaloid artery with a well-marked nucleated sheath. The hyaloid artery passed backwards from the mass behind the lens to the disc. The choroid was normal. The retina was *in situ*, and macroscopically appeared normal, but on microscopical examination the retina in the anterior part of the globe showed a great deficiency in ganglion cells. The rods and cones in all situations were short and imperfectly developed. The optic disc presented a coloboma of the nerve sheath below and a well-marked hyaloid artery coming off from its centre, around which there was some atypically developed fibrous vitreous. There was no cupping of the disc. Although the superficial clinical appearance of the eye before enucleation resembled a pseudo-glioma with secondary glaucoma due to an excluded pupil and iris bombé, the presence of a clear cornea, together with the absence of all signs of exudation in the pupil, was strongly against the probability of the defect being due to intrauterine inflammation. The pathological examination further bore this out, and showed that the condition was undoubtedly due to maldevelopment. A failure in the development of the suspensory ligament had taken place. This had led to the ciliary process remaining adherent to the sides and back of the lens. These processes consisted practically of nothing more than the epiblastic element of which they were composed. The eye increasing in size had pulled the epiblast inwards, so that the situation where the processes were adherent to the back of the lens, the ora

serrata had not formed, and the retina appeared to join it close up to the ciliary processes. The anterior lenticonus was due to the lens being adherent to the cornea in front, whilst it was held firmly in position behind by the ciliary processes and persistent hyaloid artery and fibrous vitreous. Although the lens was in contact with the cornea, there was no anterior polar cataract, which was against the view that contact alone of the lens with the posterior surface of cornea was sufficient to produce it. The drag of the ciliary processes had evidently produced a rupture in the posterior capsule, which was subsequently filled by atypically developed fibrous vitreous, and accounted for the persistence of the hyaloid artery. The imperfect formation of the retina was of interest in view of the fact that the other eye, although presenting no ophthalmoscopic change, evidently possessed bad vision, as the patient had nystagmus and excentric fixation, and did not take notice of anything but large objects; presumably the retina might be affected by similar changes. That intrauterine buphthalmos could occur was important in view of the fact that cases had been recorded of congenital anterior staphyloma in which perforation had apparently taken place immediately before birth.

## LIVERPOOL MEDICAL INSTITUTION.

*Thursday, January 27th, 1910.*

Dr. BRADSHAW, President, in the Chair.

*Duodenal Ulcer.*

DR. BUCHANAN, in a paper on the symptoms and treatment of duodenal ulcer, emphasized its latency and described various premonitory symptoms—flatulence, feelings of epigastric distension aggravated by starchy foods, sugars, and fats. A mild icterus was sometimes present. Spasm of the pharynx was a suggestive symptom. The onset of haemorrhage was sometimes preceded by toxic symptoms, general malaise, and the facies was sometimes suggestive, this being either anaemic or resembling cirrhosis of the liver. When spasm of the rectus existed it was useful to palpate the patient while in a hot bath. In the treatment he advised absolute rest in bed and a proteid diet, 3 to 4 oz. of minced meat being given for a meal; half a pint of warm water four times a day; no soups or meat juices; natural Vichy water was useful; no pepsine or opium should be used. Mr. MONSARRAT, in a paper on the indications for and the choice of operation in gastric and duodenal ulcerations respectively, said they resembled each other in pathology, symptoms, and complications, and described 18 cases. In 15 of them the ulceration was chronic, and the indication for operation had been pain persisting despite prolonged medical treatment. Another indication for operation was the occurrence of frequent small haemorrhages and troublesome vomiting. The PRESIDENT confessed that in most cases he was unable to distinguish clinically between gastric and duodenal ulcers; Dr. Buchanan's account would in the main apply to both. Mr. Monsarrat's suggestion that acute and chronic ulcers were of different origin was a valuable one, and might account for the fact that while the symptoms of gastric ulcer were far more common in women, *post-mortem* records showed that the ulcers were as common or more common in men. The acute ulcer might be expected to heal, not so the chronic. Professor GLYNN instanced a case showing remarkable latency with recurrent haemorrhages. Mr. R. W. MURRAY considered that gastro-enterostomy should be performed whenever the diagnosis was clearly established. Mr. THELWALL THOMAS drew attention to the difficulty of differentiating between a lesion of the stomach or duodenum and one of the gall bladder. The sensory nerves distributed to these structures were the same. The treatment of haemorrhage was absolute starvation; he doubted the utility of serum or drug treatment, and considered the treatment of duodenal ulceration to be essentially surgical. Dr. NEWBOLT reserved the anterior operation for cases in which the stomach was fixed by carcinoma or by adhesions, or when it was necessary to operate quickly. He was not in favour of gastro-enterostomy as a routine practice in perforated duodenal ulcer; in many cases it was not necessary. Dr. HAY referred to a patient who had suffered from recurring melaena and haematemesis extending over a period of eight years, and who had also the symptoms of duodenal ulcer. He was relieved temporarily by gastro-enterostomy, but two years later the abdomen had to be opened again on account of most serious haemorrhage. The enterostomy opening was found to have closed. The patient died, and no lesion could be found in oesophagus, stomach, or intestines to account for the fatal bleeding. Dr. WARRINGTON referred to three patients in whom the diagnosis of duodenal ulcer was made. One perforated a few hours later, in a second nothing was found at operation, and the third was so improved by medical treatment that operation was refused. Dr. MACALISTER considered a toxic origin of gastric ulcer to be indicated by certain long-continued prodromal symptoms not immediately connected with the stomach. These consisted of Raynaud-like phenomena sometimes associated with muscular spasm. Probably acute ulcer originated in local vascular spasm.

## NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

*Wednesday, January 26th, 1910.*

Mr. A. FULTON, President, in the Chair.

MR. H. B. TAWSE, in a paper on Killian's *Submucous resection of the nasal septum*, emphasized the value of local anaesthesia by means of cocaine and adrenalin hydrochloride in this operation. He employed this method, with one exception, in a series of cases with complete success. The sitting posture and the conscious help of the patient greatly assisted the operator, and complaints of pain were few; whereas chloroform meant the patient being recumbent and the presence of a first-class anaesthetist. He ordered the patient to have a good meal before the operation and an alkaline douche. In performing the operation he made a buttonhole incision in the mucous membrane with a tenotome, and with a blunt dissector carefully freed the muco-perichondrial tissue from the cartilage. The cartilage was then incised in the same line as the original incision and freed from the opposite muco-perichondrial tissue. After cutting away the cartilage the mucous membrane was united with a few stitches and the nasal cavities plugged for twelve hours. Some oedema appeared after twenty-four hours, but disappeared in a few days. Blowing the nose was prohibited for three weeks. After enumerating the difficult cases, the author dwelt on the errors likely to be made during the operation, such as buttonholes, especially where adhesions resulting from old fractures were encountered. Secondary haemorrhage was easily stopped by prompt plugging of the bleeding point. After enumerating the various indications for operation, the author reviewed his 110 cases, 102 of which were completely successful as regards the operation.

## ROYAL SOCIETY OF MEDICINE.

SECTION OF DISEASES OF CHILDREN.

*Friday, January 28th, 1910.*

Dr. H. D. ROLLESTON in the Chair.

THE following were among the cases described:—Dr. DAVID FORSYTH: A case of *Congenital oedema*, with dilatation of the intestinal lymphatics. No family history of a like condition could be obtained. The face and trunk showed nothing amiss. An average quantity of urine was passed, and contained no albumen. After a sudden rise of temperature the child died somewhat unexpectedly. At the autopsy the oedematous patch on the left leg was incised, and appeared as a greyish-white gelatinous mass. Microscopically, it was composed of connective tissue, with large spaces, which had been distended with clear fluid. The intestines seemed under their peritoneal covering to be distended lacteals. The mesenteric glands were healthy, as also the other viscera. Dr. A. C. D. FIRTH: A case in which *Intestine had prolapsed through an ectopia vesicae*. The anus was imperforate. The child died on the sixth day after its admission, at a time when it was a few hours old. Mr. DOUGLAS DREW: A case of *Separation and displacement forwards of the lower epiphysis of the femur* which he had treated by plate and screws. The patient was a boy, aged 8½, who was knocked down and run over by a van on November 30th,

1909. After the operation, nine days later, the limb was placed in a splint bent to a right angle. Massage and passive movement were begun within three weeks, and active movement a week later. When shown at the end of the sixth week the child could walk with assistance, and movements at the knee were good. Dr. F. PARKES WEBER: Three cases of *Family idiocy*. Though practically blindness existed, ophthalmoscopic examination showed nothing characteristic of family amaurotic idiocy. Mr. N. BISHOP HARMAN: A girl aged 2¾ years, whose right iris was so black that at a distance of a yard the difference between iris and pupil could scarcely be detected; the sclera was covered with patches of brownish-black pigment. The left eye showed white sclera and a dark brown iris. The parents were normal eyed. The exhibitor said this excessive pigmentation was occasionally seen in Dalmatian dogs, but was very rare. Dr. O. K. WILLIAMSON: Case of *Spastic diplegia* in a girl aged 10½ years, who also showed mental defect. There was a history of forceps at birth, and the child did not walk until 3 years old or speak until about 8 years of age. Dr. DONALD CARTER read a paper on *Infant feeding*.

# Reviews.

## A SYSTEM OF OPERATIVE SURGERY.

LIKE so many other of the Oxford Medical Publications, the four volumes of Mr. BURGHARD'S *System of Operative Surgery*,[1] assert their claims upon the reader by their handsome appearance and excellent typography. Let it be said at once that the illustrations, upon which so much care and attention have been lavished, are also a recommendation. With regard to the first volume, it must be admitted that something was sacrificed to a desire on the part of the publishers to get early into the field, and the editor's chapter on excisions would have come much better in the same volume as that on the treatment of tuberculosis of the joints, and space might have been saved thereby. Mr. Lockwood contributes the first article, on the principles and technique of wound treatment, embodying a good deal of his well-known work on aseptic surgery. There follows a chapter, or, rather, a couple of short sections, on methods of local analgesia by Captain Houghton, satisfactory enough as far as they go, but hardly adequate to fair expectations of a treatise on this scale. Of the editor's 200 pages on amputations nothing need be said, save that they are characterized by the thoroughness and lucidity that have made him one of the most successful teachers of operative surgery in London. Section 4, dealing with operations upon the arteries, veins, and lymphatics, is from the same pen, and embraces so much of new work—Dorrance's arterial suture, Matas's endo-aneurysmorrhaphy, Handley's lymphangeioplasty, etc.—that it is exceptionally interesting reading and most opportune. Ligation of arteries in their continuity is rather a barren subject, but it is worth while correcting the statement made on page 370, that "operation (ligature of the first part of the subclavian) is never attempted on the left side," because a successful case was published, several years after performance, by Mr. Stonham, three or four years ago. In the section on the nerves, Mr. Burghard gives an excellent account of his modification of the Hartley-Krause operation. In describing tendon suture he does not do justice to the virtues of silk as a medium; it is exceedingly well tolerated and makes a satisfactory bridging material. Mr. Burghard, who also deals with non-tuberculous lesions of bones, does not favour subtrochanteric osteotomy for coxa vara, though there is much to be said in its favour. Mr. Legg has written a fairly complete account of plastic surgery, and, what is more important, a practical one; so many descriptions are wearisomely complicated and so obviously outrun the illustrator's powers of representation, that these pages are refreshing by contrast.

The first article in the second volume is by Mr. Stiles, and deals with operations for tuberculous affections of the bones. He illustrates by excellent radiographs the gratifying results to be obtained after subperiostal resections of large parts of the diaphysis. His directions for dealing with tuberculous abscesses in connexion with the spine are very explicit. In the next article the same author treats of tuberculous diseases of the joints, and, far from confining himself to the mere description of the operation, devotes a good deal of space to well considered directions for after-treatment. His account of measures suitable for various forms of ankylosis is useful. Mr. Edmund Owen, who deals with hare-lip and cleft-palate, gives us his matured views on a subject on which he can speak with authority. Mr. Lenthal Cheatle writes the chapter on cancer of the lips, illustrating with good diagrams the principles which he has laid down for the proper extirpation of the disease. Mr. Fagge is responsible for operations upon the jaws, and upon the oesophagus. Mr. Butlin lends all the weight of his great authority to the section dealing with diseases of the tongue, tonsils, and pharynx. His statistics are fully set out, and figures of his operations upon those chronic inflammatory conditions which precede cancer are displayed. Section 4 is devoted to diseases of the stomach and intestines. When it is said that the stomach and duodenum are dealt with by Mr. Moynihan, that the surgery of the intestines is in the hands of Mr. Makins, that of "hernia" in those of Mr. Barker, and that Mr. Swinford Edwards writes upon the rectum, no more will be necessary to recommend this volume to the judicious reader. There is perhaps no more thoroughly satisfactory article in the whole *System* than that from the pen of Mr. Makins. The reader cannot fail to realize that he is reaping the fruit of a large experience, and that anything that may be lacking in the way of encyclopaedic completeness is more than atoned for by the discriminating individuality which pervades it.

In the third volume the plan of putting the various sections in the hands of those who have more or less specialized therein is continued. For example, Mr. Berry in thirty-five pages has given a succinct and valuable summary of the various methods of dealing with goitre and allied conditions. For operations upon the bile passages and pancreas Mr. Mayo Robson's help has been sought, whilst Mr. Moynihan, with the assistance of Mr. Upcot, discusses the indications for, and methods of operating upon, the spleen. Operations upon the thoracic wall and its contents are naturally enough left in the hands of Mr. Godlee, who has taken the opportunity of describing the special chambers, with negative and positive pressures, employed by Sauerbruch and others for operations. Mr. Stiles, who writes upon the treatment of tuberculosis of the lymphatic glands, and also upon diseases of the breast, does so with the careful attention to detail, and to the anatomical and pathological principles involved, which characterizes all he has written. Dr. David Newman, who contributes the section upon the kidneys and ureters, develops his well-known views as to the proper field of the cystoscope, and allows play to his experience and predilections in a manner that makes his pages interesting. It is a little difficult to believe that the forceps he figures for delivering the kidney can really be of value enough to deserve that prominence. Mr. Thomson Walker writes about the bladder and urethra with all his accustomed facility; his discussion of the indications for urethrotomy, for cystectomy and other conditions, should be very useful to young surgeons. Mr. Freyer deals not only with the prostate, but also with vesical calculus. He speaks with the authority of large experience when crushing and cutting operations are considered, and it is interesting to find him still faithful to lateral cystotomy. The editor takes charge of operations upon the genital organs, and it is to be noted that he is a strong advocate of the preservation of the imperfectly descended testicle, which he believes is generally capable of functioning. In this volume are included operations upon the central nervous system, those on the cranial cavity being described by Mr. Rawling and those on the spinal cord by Mr. Thorburn. The latter, in particular, has discussed "indications" with great acuity. Whilst he speaks of various reasons for division of the posterior roots, he does not, it appears, mention the measure in connexion with lightning pains.

In the fourth volume Mr. Bland-Sutton takes up

[1] Oxford Medical Publications. *A System of Operative Surgery*. Edited by F. F. Burghard, M.S.Lond., F.R.C.S. In four volumes. 1909. London: Henry Frowde, and Hodder and Stoughton. (Roy. 8vo, Vol. I, pp. 783, 341 illustrations; Vol. II, pp. 750, 317 illustrations; Vol. III, pp. 764, 381 illustrations; Vol. IV, pp. 687, 351 illustrations. 36s. a volume, £6 four volumes.)

abdominal gynaecological operations. He is not content with Mr. Lockwood's article, but opens his own with an account of the technique of coeliotomy. He adds, however, a chapter on the after-treatment of abdominal operations which covers much ground. His statistics, his references to literature, and his vigorous style are alike admirable. It is worth while mentioning that he condemns hysterectomy for puerperal sepsis, though some American surgeons look upon it as a routine measure. Vaginal procedures are under the charge of Dr. John Phillips. The remaining five hundred pages are devoted to the eye, ear, larynx and trachea, and nose, and are in the hands respectively of Mr. Mayou, Mr. Hunter Tod, Mr. Harmer, and Dr. StClair Thomson. All alike are extremely good, and well maintain the general high level of the whole *System*. It will be a long time before Mr. Burghard's volumes are displaced from a premier position.

## SYPHILIS.

THE third volume of the *System of Syphilis*,[2] edited by Mr. D'ARCY POWER and Dr. KEOGH MURPHY, commences with an article by Professor William Osler and Dr. A. G. Gibson on visceral syphilis. This is a very thorough piece of work, and will be found particularly useful on account of the careful attention which is paid to the clinical diagnosis of difficult cases. In advising the reader on the art of diagnosis the authors always proceed straight to the essential points, often illustrated by concrete examples from well-chosen clinical histories of particular cases; they avoid the long lists of theoretical possibilities to be excluded which are commonly found in advanced medical textbooks, but often prove more of an embarrassment than a help to the physician seeking practical guidance. Special attention is also devoted to diagnosis in the *post-mortem* room and by histological methods; the coloured reproductions of typical microscopic specimens are particularly good.

Dr. Mercier, who writes on the clinical aspects of general paralysis, observes, in discussing the relationship of this disease to syphilis, that in about 80 per cent. of cases of general paralysis a syphilitic history has been established; and the absence of such evidence in the remainder must be considered in conjunction with the fact that in other diseases which are unquestionably syphilitic "there is a residue of 20 per cent. in which no history of syphilis and no other stigma of syphilis can be found." Some other factor besides syphilis is, however, necessary to produce general paralysis. It has not been ascertained with certainty what this factor is, or whether there are more factors than one. Dr. Mercier suggests that excessive use of the brain is a predisposing cause, since it has long been observed that "general paralysis seemed to prefer active, energetic, strenuous, successful, busy men." He also views with favour Dr. Mott's idea that there may be a special variety of the syphilitic spirochaete having a peculiar power of producing general paralysis. Regarding the crises in general paralysis, he remarks that no satisfactory explanation has yet been forthcoming for the fact that they may be mitigated in severity, or even wholly averted, by measures for the disinfection of the intestinal tract.

Dr. Castellani gives a very interesting account of yaws, supported by excellent photographs illustrating the clinical appearances of the disease. The author, as is well known, considers the specific cause of yaws to be the *Treponema pertenue*, an organism which he regards as distinct from the *Treponema pallidum* of Schaudinn. He summarizes as follows the reasons for holding yaws and syphilis to be two distinct diseases: "(1) Patients suffering from syphilis may contract yaws; patients suffering from yaws may contract syphilis. (2) Monkeys successfully inoculated with yaws do not acquire an immunity against syphilis, and vice versa." In his clinical experience of yaws at Colombo he finds that potassium iodide, in large dosage, is the most effective treatment.

In the present volume, though each writer deals with a separate aspect of the subject, there is a certain amount of overlapping. Perhaps the editors have found it impossible to eliminate this fault entirely, but they might at least have lopped off a few of the more obvious redundancies. Dr. Atkinson contributes the section on "Some Medico-Legal Associations of Syphilis." If he is to be our authority on this matter, well and good; but why permit Dr. Mercier, who writes on the clinical aspects of general paralysis, to tack on to his section Chapter XII, which deals with the medico-legal aspects of this disease? Again, Dr. Brockbank, writing under the title of "Syphilis and Life Assurance," overlaps very considerably in his first chapter, which is on "Evidence Derived from Clinical and Pathological Sources." He discusses, for example, the relation of general paralysis to syphilis, a matter which has already been dealt with by Dr. Mercier. Dr. Brockbank's section might with advantage have been limited to its three remaining chapters, which form a valuable and lucid exposition of the experiences of assurance companies in the mortality of syphilitics, and record at length the opinions of important medical referees regarding the insuring of syphilitics. The last article in the volume is a useful chapter by Mr. Haldin Davis on the technique and theory of the serum reaction for the diagnosis of syphilis.

[2] Oxford Medical Publications. *A System of Syphilis*. Volume III. Edited by D'Arcy Power, M.B., F.R.C.S., and J. Keogh Murphy, M.D., M.C., F.R.C.S. London: H. Frowde, and Hodder and Stoughton. 1909. (Royal 8vo, pp. 500, with illustrations, £2 2s.; 6 vols., £10 10s. to subscribers.)

## MADNESS FROM THE MANIAC'S POINT OF VIEW.

THE story which is offered to the public by the publishers as at the same time "the most weirdly sensational of novels" and a valuable psychological study under the title of *The Maniac*[3] has been very diversely received by the medical men who have read it. The book purports to be a faithful account of a genuine attack of acute mania which lasted six weeks. Her tale is told in very graphic and realistic fashion by the patient, a woman journalist, who had become deeply imbued with spiritualistic literature and had been overworked before the attack. This began, continued, and ended with vivid auditory hallucinations to which previous reading and thought about spiritualism had given both content and, in her insane state, justification as real experiences. Visual hallucinations followed, of a rather sublimated erotic character; then delusions of "fiend-seduction," accompanied by frenzied despair, but interrupted at times by hilarious outbursts of merriment, occasioned by the grotesquely absurd nature of constantly changing kaleidoscopic visual and auditory hallucinations. As a subjective study the book does not add anything to objectively known facts; at the same time, it very well illustrates by concrete individual experiences the underlying mechanism of many of the phenomena of mental disorder. For example, the sudden emergence above the threshold of consciousness of some disturbance of common sensibility, or of some buried memory, which, once emerged, becomes the nucleus of a temporary system of converging special sensations which clothe the phantom in the garments of every-day reality and make it proof against reason. The anonymous writer's own explanations of her illness are strangely exotic, and throw some light on her case. Her central idea is that during her madness her "ego" was actually extruded from her body, and that consequently, though she remembers everything of what she herself experienced, and is thus able to write this account of her extra-corporeal happenings, she was and is absolutely ignorant of what her body said and did when she was absent from it. This appears to be the subject's interpretation of the dissociation of personality found in hysterics. A second and significant fact is noted by the writer as "the automatic, instantaneous, and violent action of the mind upon the body"—or, put otherwise, the excessive lability of somatic outlet described by Freud as a characteristic hysterical phenomenon. Lastly, there is the assertion by the patient of loss of consciousness with the retention of intact reason. Without a commentary from the medical man who attended her a diagnosis is impossible, but that of "acute mania" hardly fits the book. The book has been blamed for its erotic allusions; we have not read anything which need prevent its circulation on this score, though on other counts—the writer's esoteric views of the nature of insanity, her inadequate knowledge of her own constitution, and her banal counsels to medical men—it would have been better left unpublished in this form.

[3] *The Maniac: A Realistic Study of Madness from the Maniac's Point of View*. London: Rebman, Limited. 1909. (Post 8vo, pp. 316. 6s.)

## "THE MAKING OF SPECIES."

*The Making of Species* is the joint production of two authors, Mr. DOUGLAS DEWAR and Mr. FRANK FINN.[4] The former, a member of the Indian Civil Service, is an amateur naturalist, the latter a professional zoologist who held for some years a post in the Natural History Museum at Calcutta; both writers have on previous occasions made contributions to literature of a more or less popular nature dealing with natural history subjects.

The present work is an attempt to deal with the philosophic side of biology, and touches upon many of the vexed questions of evolution and the origin of species. The aim of the book, so the authors tell us in the preface, is to instruct the populace and to furnish the scientific men of the day with food for reflection. Had the authors contented themselves with placing before the general reader a clear exposition in simple language of the current views on the biological problems with which they deal, they might have produced a work of some value. But they are fired with the enthusiasm of the missionary spirit, and are withal ambitious. They fear that the book will come as a "rude shock" to many men of science, whom the authors console by telling that they, the men of science, will find themselves in the same position as the theologians after the publication of the *Origin of Species*. They prescribe the perusal of their book as an antidote to the "blight of dogma" that has laid hold of British biologists, and a cure for the "generally unhealthy condition" of biology in England. We share neither their pessimism nor their complacent faith. The scientific world will not be convulsed. To be quite frank, we cannot admire either the literary style or the tone and temper of the book. One does not expect, in a work of such pretensions, to find expressions like "the man in the street," or "spotted" as a synonym for "recognized," etc. The sneers cast at British scientists are unmerited and in bad taste, and we refuse to accept the statement that the "average scientific man of to-day makes facts fit his theory, and if they refuse to fit in he ignores or denies them." The tone of the preface and of the earlier chapters is that of a spoilt child when he considers sufficient notice is not being taken of him.

While thus criticizing the temper of the book, it must not be concluded that it is without merit. There are many facts given, especially connected with bird life, which are of much interest and importance. So long as the authors confine themselves to what may be termed the natural history side, so long are they interesting and informing, but their science and their philosophy are questionable. The statement on page 21 that "the germinal matter," in hydra, "is diffused through the organism, so that a complete individual can be developed from a small portion of the creature," is not an evidence of scientific accuracy. The authors are qualified believers in natural selection, as well as in Mendelism and other theories, but what their exact position or what the particular view of their own which they are anxious to inculcate are matters difficult to understand. The earlier part of the book is evidently intended to be a confession of faith; but the statements lack sequence, and the quotations are so numerous and often so lengthy that it is almost impossible to see the wood for the trees.

Many of the illustrations are good, while others—for example, that facing page 124—are very crude. The outside of the book is good.

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## THE FALLING BIRTH-RATE.

IN a pamphlet entitled, *The Falling Birth-rate and its Significance*,[5] Lieutenant-Colonel EVERITT has gathered together from various sources, medical as well as lay, information regarding the falling birth-rate in this country. There can be no doubt that the prevention of conception is being practised on a very large scale, and when that practice exists the other one of production of abortion is never far distant. Malthusian views are quoted, and it is shown that very different economical conditions prevail now compared with what Malthus looked forward to. "We have the whole world now as a granary," and large families are not likely to starve because of an absolute lack of food in any part of the globe. Other arguments have been adduced by [neo-Malthusianism in favour of the limitation of families, but the remedy proposed is surely more dangerous than the evils it would check. The White Cross League approves of the following recommendations: (1) That means be taken to penalize the advertisement and sale of ecbolics and preventives of conception, as well as of literature dealing with these articles; (2) that every effort be made to strengthen the powers given to magistrates, so as to extend their jurisdiction in dealing with things offensive as well as indecent and obscene; (3) that, if possible, a medical statement be obtained from, and issued by, the medical profession, as to the physical dangers of artificial sterility; (4) that means be taken (*a*) to create a healthier public opinion on these matters, and (*b*) to enlighten the public as to the physical, as well as moral and spiritual, dangers to the individual and the race incurred by their use; (5) that means should be taken (*a*) to advocate greater simplicity of life, and (*b*) to impress on women (especially of the intellectual classes) the danger of forgetting their true and highest vocation—namely, that of being mothers; (6) that means should be taken to stimulate the growth of high ideals and a sterner morality.

[4] *The Making of Species.* By Douglas Dewar and Frank Finn. London and New York: John Law. 1909. (Med. 8vo, pp. 419, illustrations 15. 7s. 6d.)

[5] *The Falling Birth-rate and its Significance.* Notes compiled by Lieutenant-Colonel H. Everitt, R.M.A. (retired), Honorary Secretary, White Cross League. London: The White Cross League. 1909. (Cr. 8vo, pp. 40. 6d.)

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## NOTES ON BOOKS.

THE sixth volume of the *Practical Medicine Series*[6] for 1909 deals with the year's progress in general medicine, and is edited by Dr. F. BILLINGS and Dr. J. H. SALISBURY, with Dr. G. P. HEAD as general editor. It contains abstracts of important papers that have appeared during the previous months in current English and foreign medical literature, particularly on the acute infections, the diseases of the mouth, oesophagus, stomach, intestines, liver, pancreas, and peritoneum. The choice of papers is happy, the abstracts terse and clear, and the introductory and connecting paragraphs helpful. The following subjects receive special attention: Typhoid fever, visceroptosis, colitis and pericolitis, gastric and duodenal ulcer, and pancreatitis. Although it does not cover the whole ground of general medicine, it is a useful volume.

We have received the first volume of the annual course of medical post-graduate education, *Jahreskurse für ärztliche Fortbildung*, which is published in Munich under the editorship of Dr. D. SARASON, of Berlin. The idea of this publication is to lay before the practitioner each month a series of articles from the pens of eminent specialists on the more recent additions to medical knowledge. The programme announces one volume each month, and the subscription for the whole year is 16 marks. No. I contains a few pages of introduction from the editor, and a very excellent treatise on general biology and pathology by Professor O. Lubarsch, including chapters on inheritance, fertilization, normal and pathological growth, tumours and disturbances of the cellular fat, and carbohydrate metabolism. There is no question that the general practitioner would gain materially by carefully reading, marking, learning, and inwardly digesting this treatise, but it is quite another thing to expect him to give up the time required for it. The matter cannot be absorbed by rapid skimming. We can only recommend him to subscribe to the publication and use it judiciously. If the subsequent volumes are as good as the first, the scientific value of the venture is assured.

In a pamphlet on the diagnosis of chronic gonorrhoea and other bacterial affections of the male genito-urinary organs,[7] Dr. RUDOLF PICKER of Budapest advises that in all cases the medical man should begin his investigation by examining the posterior urethra, the prostate, seminal vesicles, ampullae of the vas deferens, and Cowper's glands, and that this be followed by microscopical and bacteriological examination of any secretions that can be obtained from one or other of them by rectal palpation. If the posterior urethra and its adnexa can be excluded as

[6] *The Practical Medicine Series.* By G. P. Head, M.D. Vol. vi. *General Medicine.* Edited by F. Billings, M.D., and J. H. Salisbury, M.D. Series 1909. Chicago: The Year Book Publishers; and Glasgow: G. Gillies and Co. 1909. (Cr 8vo., pp. 358. 6s.)

[7] *Die topische Diagnose der chronischen Gonorrhoe, etc.* Von Dr. Rudolf Picker. Berlin: O. Coblentz. 1909. (Roy. 8vo, pp. 54, Taf. 1. M 1.60.)

causes of the trouble, the anterior urethra is next to be dealt with, and if it too can be excluded, the state of the bladder and kidneys is to be inquired into. The author describes this method of procedure carefully and in detail, and various points are emphasized by the notes of illustrative cases.

Part I of the eighteenth volume of the *Royal London Ophthalmic Hospital Reports*[8] has for its editor Mr. WILLIAM LANG, one of the surgeons to the institution. He is not himself a contributor to this fasciculus, which, however, contains nine good papers, of which six are freely illustrated. The volume opens with a paper already familiar to readers of this JOURNAL, being that with which Mr. Treacher Collins opened the discussion at Belfast on diseases of the lymphoid tissue of the conjunctiva. Among other contributors are Dr. Tatsuji Inouye of Tokyo, who deals with an investigation in the laboratory of the institution of a case of obstruction of the central vein; and Messrs. Herbert Fisher, Claud Worth, M. L. Hepburn, R. J. Coulter and G. Coats, and A. C. Hudson. Of chief general interest, perhaps, is the careful description by the late Mr. W. Ilbert Hancock of three cases in which infection followed operations for the relief of cataract.

A third edition of *Official Chemical Appointments*,[9] compiled for the Institute of Chemistry by Mr. R. B. PILCHER, has now been issued. It made its first appearance some three years ago, and serves as a reference book to all appointments of an official character connected with the application or teaching of chemistry in any of its branches throughout the whole of the British dominions. There is also an appendix giving a list of societies and institutions directly and indirectly connected with the same science, and an index of names and places at which official appointments exist. The volume should prove useful both to those in search of chemical appointments, and to local authorities and others needing chemical assistance.

The new edition of the *Year Book of Scientific and Learned Societies*[10] is the twenty-sixth annual issue of a reference book of much utility. It gives an account of associations and societies in Great Britain and Ireland which occupy themselves with either science, literature, or art. A list of their officers is supplied, of their habitations, of the terms of membership, their days of meeting, and usually some account of the work they have done during the previous year. As a rule this takes the form of a list of papers read, and a glance over the titles supplies a good conception of the current direction of scientific thought. The book is divided into fourteen sections, of which much the largest is that devoted to medicine. Also large is the section of biology, including microscopy and anthropology. In the medical section are to be found some 177 societies, of which 61 appear to be in the metropolis, 87 in the provinces, 22 in Scotland, and 7 in Ireland.

[8] *The Royal London Ophthalmic Hospital Reports.* Edited by William Lang, F.R.C.S. Part I, vol. xviii. 1910. London: J. and A. Churchill. (Pp. 142. 5s net.)

[9] *Official Chemical Appointments.* By R. B. Pilcher. Third edition revised and enlarged. 1910. London: The Institute of Chemistry of Great Britain and Ireland. (Pp. 234; price 2s. net.)

[10] *The Year Book of Scientific and Learned Societies.* Twenty-sixth annual issue. London: Charles Griffin and Co. (Demy 8vo, pp. 351, 7s. 6d.)

## MEDICINAL AND DIETETIC ARTICLES.

### *"Ecsōlent" Compounds.*

WE have received samples of three preparations supplied by Ecsōlent Compounds, Limited (Saracen Buildings, Snow Hill, E.C.), and intended for the treatment of eczema and other skin affections. These comprise an ointment, a soap, and a dusting powder. The ointment is made with a basis of soft paraffin, and contains zinc oxide, starch, boric acid, and resorcin, with small quantities of a number of antiseptic and aromatic substances; the soap shows no free alkali, but is slightly superfatted, and both this and the powder contain some of the aromatic and antiseptic ingredients used in the ointment, the basis of the powder being talc, with zinc oxide, starch, and boric acid. From the composition of these preparations they may be expected to prove useful for the purpose for which they are intended.

UNDER the will of the late Mr. Samuel William Eden of Mansfield, the General Hospital, the Samaritan Hospital, and the Midland Eye Infirmary—all institutions in Nottingham—each receives a legacy of £250, the Children's Hospital and the Association for the Prevention of Consumption, in the same city, receiving £100 and £50 respectively.

## PELLAGRA.

PELLAGRA is a scourge from which we in these islands are fortunately free. It is by no means certain, however, that this immunity will continue. The disease, which saps the vitality of its victims and often leads to madness, murder, and suicide, is endemic in certain regions, but it slowly spreads beyond their boundaries. In Europe its chief haunts are Italy, Spain, and Roumania. But there are areas in Asia, Africa, America, and Australasia where it is also endemic. It prevails to a serious extent in many parts of the British Empire and its dependencies. In Egypt it is a veritable scourge. It has been observed in the West Indies (Barbados) by Dr. Cuthbert Bowen, and, more recently, by Dr. G. C. Low. In South Africa it occurs among the Zulus and Basutos. There is evidence that it is prevalent in parts of India. At the Tropical Section of the British Medical Association Meeting at Edinburgh, Dr. Sandwith showed pictures and photographs of pellagra which were independently recognized by three members from India as representing a disease which they had often seen among out-patients without being able to give it a name. In the United States a few sporadic cases had been observed from time to time, but since 1906 numerous cases have been reported from no less than thirteen States.

At the present day the hypothesis as to its causation which is almost universally accepted is the "maize theory," which ascribes the disease to the use of maize (*Zea mais*) or Indian corn as an article of food. By some investigators the morbific action of Indian corn has been attributed to specific toxic substances contained normally in the grain, or to poisons which are the product of certain bacteria which attack the maize. At the Tropical Section of the British Medical Association, held at Leicester in 1905, Dr. L. W. Sambon argued that pellagra did not seem to be a food disease or to be due in any way to unsound maize, and suggested that in all probability it was protozoal in origin.[1] Briefly summarized, the reasons advanced for this belief were: (1) The total absence or extreme rarity of pellagra in certain places where maize forms the staple food of the population. (2) The presence of the disease in places outside the area of maize culture, and in people who have never partaken of this cereal as food. (3) The failure of numerous investigators to reproduce the disease (true pellagra) in either man or the lower animals by means of maize itself, by the toxins obtained from decomposing maize, or by the cultures of any of the numerous bacteria and fungi found on maize, which have been suggested at one time or another as its causative agents. (4) The striking recurrence of symptoms each spring, even after removal of the patient from the endemic area, and after the entire elimination of maize from the diet. (5) The peculiar topographical distribution of the disease. (6) Its strict limitation to field labourers. (7) The similarity of symptoms (early skin eruption, late nervous manifestations) and anatomical lesions (perivascular small-cell infiltration) with such protozoal diseases as syphilis and sleeping sickness. (8) The marked increase of large mononuclear leucocytes. (9) The favourable action of arsenic in the treatment of the disease, just as in trypanosomiasis, kala-azar, syphilis, and other protozoal infections.

Dr. Sambon's theory has received the support of Sir Patrick Manson, who has repeatedly urged the necessity of investigating the disease. Professor Terni, at the third Pellagra Congress held in Milan in 1906, said he was inclined to accept Sambon's opinion; and at a conference held in Columbia, U.S.A., in 1908, Drs. Moore, Wood, and Taylor, who read papers on the etiology of pellagra, adopted the protozoal theory, to which more recently Professor Babes has become a convert. Dr. Lavinder, of the United States Public Health and Marine Hospital Service, in a paper read before the American Society of Tropical Medicine in 1908, said, in summing up a review of the literature of the subject, that Sambon's suggestion of the possible protozoal nature of the disease offered a new and possibly profitable field for investigators.

The sudden spread of the disease in the Southern States of the American Union has led to prompt action. Since 1908 two conferences have been held in South Carolina, and, as already stated in the JOURNAL, a Pellagra

[1] BRITISH MEDICAL JOURNAL, November 11th, 1905, p. 1272.

Congress has been arranged to be held next June at Peoria, Illinois, and a National Association for the study and prevention of the disease has been organized.

In view of the prevalence of the disease in British colonies, protectorates, and dependencies, it has been thought a matter of urgency that a scientific inquiry into the causation of the disease should be made by a British Commission. Accordingly a Pellagra Investigation Committee has been formed consisting of the Italian Ambassador; Sir T. Clifford Allbutt; Mr. E. E. Austen, of the Department of Zoology, British Museum (Natural History); Fleet Surgeon P. W. Bassett-Smith, R.N., Lecturer on Tropical Medicine, Royal Naval Hospital, Haslar; Sir T. Lauder Brunton; Mr. J. Cantlie; Mr. R. S. Fraser, Member of Council, London Chamber of Commerce; Dr. C. F. Harford, Principal of Livingstone College, Leyton; Sir William Leishman, Professor of Pathology, Royal Army Medical College; Dr. G. C. Low, Lecturer in Parasitology, King's College, London; Dr. J. M. H. MacLeod, Lecturer on Dermatology, London School of Tropical Medicine; Sir Patrick Manson; Dr. F. G. Melandri, Physician to the Italian Embassy; Professor E. A. Minchin, F.R.S.; Dr. F. W. Mott, F.R.S.; Professor William Osler, F.R.S.; Commendatore Paola Polenghi, President of the Italian Chamber of Commerce, London; Professor Ronald Ross, F.R.S.; Dr. L. W. Sambon; Dr. F. M. Sandwith; Professor W. J. R. Simpson; Dr. S. Squire Sprigge, Editor of the *Lancet;* Mr. H. S. Wellcome; and Dr. Dawson Williams, Editor, BRITISH MEDICAL JOURNAL. At a meeting held in London on Friday, January 21st, with Sir W. Leishman in the chair, Dr. Sambon explained his views with regard to the etiology of pellagra and proposed a scheme of investigation. The following resolutions were passed:

1. That the committee, after hearing Dr. Sambon's statement concerning the etiology of pellagra, are of opinion that it is a matter of importance that, both on scientific and hygienic grounds, the hypothesis formulated by Dr. Sambon shall be investigated.
2. That the committee are of opinion that any funds raised to defray the expenses of such investigation will be well spent.

It is suggested that Dr. Sambon be sent forthwith to a pellagrous area to work out the topographical distribution and epidemiology of the disease. Dr. Sambon believes that pellagra must be an insect-borne disease, and that the most likely carrier is a simulium. The *Simulidae* are very widely distributed throughout the world; geographically their distribution coincides with that of pellagra, topographically the coincidence becomes far more accentuated. The *Simulidae* breed in mountain and swift-running streams; they need well-aërated waters, and are never found in stagnant water; indeed, they die in three or four hours when placed in quiet water; their seasonal appearance in the imago stage agrees in a most striking way with the incidence of pellagra. In Europe their swarms appear in early spring and again in autumn. The *Simulidae* are greedy blood-suckers, and, although hitherto no special infection of man has been definitely ascribed to them, there are many reports in newspapers of human beings dying in consequence of their attack. They are known to cause great destruction amongst horses, cattle, hogs, sheep, and poultry. Unlike mosquitos, they bite in the daytime and swarm in bright sunshine. Finally, the meteorological conditions which favour the incidence of pellagra seem to be the same as those which favour the increase of these insects.

Dr. Sambon will study the disease in the lower animals as well as in man; he will try to establish in a definite manner whether pellagra can be looked upon as belonging to the group of protozoal diseases, and he will endeavour to demonstrate the parasite. Important results will be studied with a view to confirmation by other members of the committee who will also either work at the material sent home or, if necessary, will join Dr. Sambon in the field. Owing to the large amount of work entailed, it is proposed to send with Dr. Sambon properly qualified assistants to help him in the examination of patients, in laboratory work, and in the collection and study of insects. It is also suggested that arrangements be made for Dr. Sambon to receive every possible assistance from local medical men and naturalists by associating them as correspondents. It is hoped to raise a fund of £1,000 to defray the expenses of travelling, outfit, etc., and, if more is available, to afford adequate pay to such others as the committee may appoint to take part in the investigation, whether in the field or at home. To raise this subscriptions will be necessary. Already the Colonial Office has promised £150 on condition that a further amount of £450 is found; Commendatore P. Polenghi, President of the Italian Chamber of Commerce, and others have also promised donations, and both the London and the Liverpool Schools of Tropical Medicine are contributing to the fund. We commend the objects of the Commission to the attention of all who are interested in the health of our colonies.

## THE BOARD OF EDUCATION.

### CHIEF MEDICAL OFFICER'S ANNUAL REPORT.

(*Continued from page 215.*)

#### THE PHYSICAL CONDITION OF SCHOOL CHILDREN.

THE opinion is expressed that, while it was not the intention of Parliament, when passing the Education Act of 1907, to secure anything in the nature of an anthropometric survey of the children of the country, there are directions in which useful work might be done by school medical officers. The following are mentioned:

(*a*) A comparison of diseases or defects at different age periods of both sexes, in the same locality, extending over a period of years, with the consideration of the possible conditions and circumstances which affect the incidence and character of such diseases.

(*b*) The incidence of disease or defect at certain ages in different localities, rural and urban, may be contrasted (for example, the eyesight, general nutrition, relation of height and weight, cleanliness, and, where criteria may be mutually agreed upon, such diseases as tuberculosis and rickets).

(*c*) The general physique, etc., of children born in seasons of distress or unemployment, may be contrasted with that of children born in more prosperous times in the same locality.

(*d*) The physical condition of school children born in years of high infant mortality in an area as contrasted with that of children born in years of low infant mortality.

(*e*) The incidence of certain diseases or defects at different age periods in each sex may be compared.

(*f*) The effect of several years' medical inspection on certain general conditions—for example, in securing cleanliness of body and head, whether by domestic means or "cleansing" schemes, in ensuring care of the teeth, counteracting the practice of mouth-breathing, etc.

(*g*) The effect of the general hygienic conditions of the school on the health and physique of the child—for instance, the possible influences of good and bad lighting on the eyesight; of lessons given in the open air; of improved methods of teaching physical exercises, etc.

*Nutrition.*

It is suggested that nutrition should be taken as representing not only fair growth, plumpness, and physique, but a body in which all the systems are carrying out their functions harmoniously. The examiner should keep before him as a mental standard a child to whom the term well-nourished might fairly be applied, and not an average child of the district in which he is working, for the average may be high or low.

*Cleanliness.*

There is said to be a tendency to adopt too low a standard and to consider it inevitable that children should attend school in a more or less dirty condition, whereas if education has not engendered a habit of cleanliness it has seriously failed in one of its objects. The influence of the teacher can be exerted not only on the child but on its mother. If a local education authority decides to make some special provision for the cleansing of school children, it is important to adopt a system which will enable the largest number of children to be dealt with in the shortest possible time. From this point of view the shower bath system so esteemed on the Continent merits consideration.

*Cleanliness of the Head.*

Verminous heads are not confined to the poorer districts, one-half of the girls in urban areas and one-quarter of those in rural areas having unclean heads. Carefully contrived cleansing schemes have been devised by many authorities, those described by the school medical officer for Gloucestershire, Dr. Middleton Martin, and by Dr. Fosbroke, of Worcestershire, being quoted as examples. The vigorous measures instituted several years ago by Dr. Kerr in London and the statistics resulting from them also find place.

*Ringworm.*

The prevalence of this disease is stated to be probably greater than can be gauged by the number of cases

discovered during routine medical inspection. In Bradford, where the average number of children absent on account of ringworm has been between 80 and 100 out of 37,000 each week, the number has doubled since the advent of the school nurse. The points of primary importance are: (1) Careful observation by the class teacher (who will have to be aided in many areas by a school nurse); (2) exclusion of all children affected; (3) the strict supervision over all children returned to school as cured. Periodic examination of the heads of all children will probably prove another necessary measure. Even children certified by a medical man to be cured are sometimes found to be in an infectious condition. The disease needs persistent treatment, but on account of the expense and trouble it is difficult to ensure continuous attention by parents. Hence, five local authorities have themselves offered treatment. At three drug treatment is employed, at one drug treatment *plus* *x* rays, and at Bradford *x*-ray treatment only, unless objection is raised by parents. When thus treated the disease is commonly cured in from four to six weeks, and there is no substantial evidence that it is in any way injurious.

*Dental Conditions.*

The condition of the teeth in children from very poor districts seems somewhat better than in children of schools in better-class districts. In Cambridge the work is done by a dentist, who points out that whereas 11 per cent. of children aged 3 and 4 have perfectly sound teeth, those of 13 and 14 have each nine or more permanent teeth carious. Though the ill-effects of caries on the general health are not easy to tabulate, the condition somewhat vaguely known as delicacy frequently had dental caries as a contributory cause. Preventive treatment should be instituted before the child comes under the care of the local Education Authority. The chief cause of damage to the developing teeth, both temporary and permanent, is unsuitable food. In this direction improvements may be expected from the work of the Sanitary Authority in dealing with the prevention of infantile mortality. From infancy upwards children should be taught to cleanse their mouths daily.

*Adenoids.*

From 8 to 10 per cent. of all children examined on admission to school present marked obstruction to nasal breathing, which is taken as evidence of adenoids, which, together with enlarged tonsils, represent a vast mass of educational inefficiency. Removal alone is not sufficient, for, mouth breathing having become habitual, careful training in nose breathing is necessary. When possible the child should be sent to an open-air school for one or two months. Teaching children the use of the pocket-handkerchief and simple breathing exercises while in the infant school is a means of prevention which should not be overlooked by local education authorities.

*Glandular Enlargements.*

Enlarged lymphatic glands about the head and neck are very frequent. If not traceable to septic conditions in the mouth or to vermin in the head, they may be evidence of a general condition of debility due to causes such as lack of fresh air, or they may be associated with tuberculosis. Increased accuracy respecting their distribution and extent would be advantageous.

*Eye Disease and Vision.*

About 30 per cent. of the entrants and leavers seem to suffer from either blepharitis, conjunctivitis or inflammatory conditions of the cornea. Children in rural schools are as frequently affected as those in urban districts. About 10 per cent. of all children of all ages seem to need treatment for visual defect. Vision equal to $\frac{6}{18}$th or less is taken as indicating need of careful examination by an ophthalmic surgeon. The returns should classify the condition according to the degree of the defect, and separate returns be made for boys and girls at each age period. This examination should usually not be delegated, and special attention should be paid to children found provided with spectacles, as they are often unsuitable.

*Ear Disease.*

Running ears are found in about 1 in 60 of all entrants and leavers, and in just twice that proportion among infants. A large proportion are found to have had running ears at some time or another. Parents do not understand the serious nature of the condition, and not only medical skill, but daily attention on the part of a nurse, is required. Defective hearing, as observed by teachers, exists in approximately 5 per cent. of school children. All children noticed to be deaf, either permanently or intermittently, or to be dull and inattentive, should be specially examined. Each ear should be tested separately, and the forced whisper, not a ticking watch, employed. The latter method is frequently fallacious with young children. Children whose hearing makes them ineducable at ordinary schools should be returned as "very deaf," and the others classified as "deaf" and "somewhat deaf."

*Tuberculosis.*

The percentage of recognized cases varies greatly in different areas; about 0.8 per cent. of all children examined seems an average, but is less than the real proportion. If a child coughs or expectorates, or is in any way a source of danger to others, it should be excluded from school; other cases must be treated on their merits. Education Authorities are mainly concerned with preventing phthisis by methods which aim at improving health, and by attention to hygiene in various forms. Under the Act the authority can now provide food for children in whom the incidence of phthisis is likely to be precipitated by insufficient nourishment.

*School Sanitation.*

The treatment of this subject, which includes ventilation, lighting, heating, equipment, schoolroom cleanliness, cloakroom disinfection, playgrounds, and water supply, is limited to recording the arrangements in existence in sundry areas. Of disinfection it is remarked that there are not wanting signs of a wholesome tendency to rely more on routine and habitual cleanliness than upon artificial disinfection.

SCHOOL MEDICAL TREATMENT.

The Act of 1907 gives power to local authorities to provide medical treatment if they think fit, and for this purpose to co-operate with voluntary agencies if by so doing it seems to them they can effect their purpose and yet avoid laying a burden on the rates. The responsibility of sanctioning any such schemes is thrown on the Board, and before sanctioning any substantial outlay on specific medical treatment it must be assured that the authority is really attempting to grapple with treatment in a broad and scientific way, and existing machinery must be utilized so far as possible before new agencies are created. Acting on these principles, most of the authorities have referred all cases of disease or defect in the first place to a private medical practitioner, for though it is the duty of the authority to find out what children require treatment, it is that of the parent to obtain it. The real problem at present facing the local authorities is: (1) What is to be done when treatment is required which cannot be provided by an ordinary medical man? (2) what is to be done for those who cannot afford the expense of treatment? (3) what is to be done for children whose parents are irresponsible or indifferent on the subject? On these points no opinion is offered.

The work done by school nurses partakes to some extent of the nature of treatment; but it throws a good deal of work into the hands of private practitioners, even if these are directly included in the local authority's scheme. Certain schemes have not been sanctioned by the Board because the supervision of the nurse by the school medical officer when treating children for minor ailments did not seem adequate. The Board has required that in all cases treatment by nurses shall be confined to ailments such as ringworm, vermin, and superficial sores, though in a limited number of cases it has approved the inclusion of other conditions, such as conjunctivitis, discharging ears, and slight accidents.

When the services of a specialist, such as an ophthalmologist, are utilized, he may be regarded as part of the school medical staff. Schemes for providing spectacles free of charge have only been sanctioned when it has been shown to be impossible for the child to secure them through its parents or from voluntary associations, and when care is taken to secure adequate examination

and proper prescription by medical men of suitable experience.

*Contributions to Hospitals.*

The question of making contributions to hospitals by way of providing medical treatment is stated to be one of much difficulty, but no attempt is made to discuss it. It is stated that when an arrangement of this character has been sanctioned it has only been on an understanding that it shall only apply to necessitous cases, and that the amount paid shall include, when desired, reasonable remuneration to the medical staff working for such institutions.

*School Clinics.*

Only when other available means of providing treatment have been exhausted should a school clinic be established. The only fully-equipped school clinic hitherto sanctioned is that at Bradford, but similar work is done on a small scale at four or five other places.

Speaking of the Dental Clinic established at Cambridge by private munificence, which is described with much approval, it is pointed out that the attendance of a child at a public elementary school is not in itself evidence that the parents are unable to secure proper medical or dental treatment.

THE SYLLABUSES OF HYGIENE.

It is of great importance that teachers should possess adequate knowledge of school hygiene, but it is not intended that they should assume the functions of a doctor, and, by issuing the syllabus specially dealing with temperance, it was hoped to guard against incompetent or extremist teaching on the one hand, and over-elaborate physiological discourses on the other. Much excellent work in physical training is being done, and what is now needed is that the teaching and practice of physical exercises shall be organized and co-ordinated on a national basis and applied and directed specifically to the education of the child.

SPECIAL SCHOOLS FOR DEFECTIVE CHILDREN.

A considerable number of schools for blind and other defective children have been opened since the Medical Department of the Board commenced work.

*Schools for the Blind.*—The present schools and institutions for the blind are of two types: those solely for blind children, and those forming part of a wider organization, including provision for the training and employment of adult blind workers. When the effort is confined to day-school work, better premises, better education, and better care are usually given, and the child at the end of his school life is a better product. But unless the school is directly in touch with workshops and other agencies for employment, the child, when his education is complete, is apt to fail in his attempt to find opportunity for exercising and improving his craft.

*Schools for the Deaf.*—Only by studying and combining various methods and by becoming acquainted with the psychological aspects of the problem can any teacher expect to teach a deaf and dumb child to express the whole range of its experience in intelligent and connected language. In obtaining employment for deaf and dumb persons, the missionaries to the deaf perform excellent services, but much remains to be done by after-care committees in small towns and remote country places.

*Schools for the Mentally Defective.*—It is now generally admitted that children of low-grade mentality are out of place in the day schools. Such children may in many cases be trained with considerable hope of success in a residential school, but their training should not be undertaken unless it is reasonably certain that provision for permanent care will be made at the expiration of school age. In conducting an examination for mental defect, school medical officers should recognize three distinct conditions of mind, since they call for distinct modes of educational treatment: (1) Children who are merely dull and backward, who do not require special educational treatment beyond what is obtainable within the limits of the ordinary elementary school curriculum; (2) educable feeble-minded children suffering from some minor mental defect which leaves the child able to profit by training in special schools; (3) the non-educable feeble-minded for whom school training of any kind is futile. As a rule, examination for mental deficiency should not be made before the age of 7 years, and it should be a special examination. No authority should undertake the education of mentally defective children unless a strong after-care committee has been formed to deal with such cases.

*Schools for the Physically Defective.*—Though often very backward on entry, physically defective children gain ground rapidly, and occasionally pass beyond the curriculum of the ordinary elementary school. If it were everywhere possible to follow the course of the Manchester Education Committee in establishing a school of recovery, where children are both treated and taught, it would be a better arrangement than that of special day schools for cripples.

OPEN-AIR SCHOOLS.

An account is given of the working arrangements of such open-air schools as have at present been established; an important feature of them is the long mid-day rest in the open air. As an educational experiment the open-air school is certainly justifying the hopes entertained of its success. The children who return from them show quicker response, keener power to learn, better temper, and a new energy. The medical records furnish direct evidence of their value. Work of this kind is still in its early stage, and many points remain for future investigation.

## ADAMS FUND.

IT is hoped this Fund, to relieve the plaintiff in the action Adams *v.* Pomeroy and others of the expense, amounting to about £100, which the taxed costs do not cover, may now shortly be closed. The response has been generous, and only a small balance of £21 0s. 6d. remains to be subscribed. The article in *Vanity Fair*, October 7th, 1908, which was brought before the notice of the High Courts, contained a personal attack on the plaintiff, and was also a bitter attack on the whole medical profession. A full report of the action appeared in the JOURNAL of December 11th, 1909, p. 1723. In determining to bring the action defending her own reputation the plaintiff was greatly influenced by the consideration that the attack was one on the whole medical profession. Her action was justified by the strong comments made by Mr. Justice Grantham on the article written and signed by Mr. Pomeroy. Further donations will be gratefully acknowledged by the Honorary Secretary, Dr. L. Garrett Anderson, 114A, Harley Street, London, W., who acknowledges the following sums received since the last list was published:

| | £ | s. | d. |
|---|---|---|---|
| Dr. Amy Sheppard ... ... ... | 1 | 0 | 0 |
| A. M. ... ... ... ... | 1 | 0 | 0 |
| Anonymous subscriptions ... ... | 6 | 12 | 6 |
| Dr. McNeill, Wolverhampton ... | 0 | 10 | 6 |
| Dr. D. J. Robertson, Oldham ... | 1 | 1 | 0 |
| Dr. David Lawson, Banchory ... | 1 | 1 | 0 |
| The Home Counties Branch, Incorporated Society of Medical Officers of Health ... ... ... ... | 3 | 3 | 0 |
| Major P. Carr-White, I.M.S.... ... | 0 | 10 | 0 |
| Already acknowledged ... ... | 64 | 1 | 6 |
| Total sum received ... ... | £78 | 19 | 6 |

## MOTOR CARS FOR MEDICAL MEN.

CAR LICENSES.

F. W. inquires whether, inasmuch as the petrol tax has been paid since the Budget was introduced, medical men are not entitled to take out car licences according to the proposals of the last Budget.

*** If "F. W." offers to pay the licence duty on the scale proposed by the Budget, he will no doubt find the duty provisionally accepted.

THE RELATIVE COST OF HORSE AND MOTOR.

ECONOMY writes: During the past twelve months I have covered 2,600 miles on purely professional work—no long pleasure rides—with a two-cylinder 12 h.p. car, at a cost of under £26, including insurance, licenses, repairs, benzol, oil, one cover retreaded, and one fine of £3.

MOTOR CYCLE.

DR. FREDERICK LISHMAN writes: Three makes satisfy the conditions which your correspondent "H. K." desires—namely, the "V.S.," the "Roc," and the "Rex." Of these the first is the best; 5 h.p. and two-speed gear is essential; the price is £64; the side car from £10 to £14, a very good one costing £12. Particulars from V.S. Motor Cycle Co., Great Portland Street, W.

# Nova et Vetera.

## WAS DANTE A DOCTOR?

Two very different meanings may attach to this question, and according as the one or the other is chosen so will be the answer. Further, a reply to the one can easily and confidently be given, whilst it is doubtful whether our knowledge will enable us to do more than hazard a guess regarding the other.

If we ask, Was Dante nominally a physician? the answer is clearly in the affirmative. Not many things, perhaps, are securely known regarding the great Tuscan poet, but it is certain, so far as anything can be certain that happened more than 600 years ago, that he was enrolled in the Guild of Physicians and Apothecaries (*L'Arte de' Medici e degli Speziali*) of Florence. Edgcumbe Staley, whose learned work on *The Guilds of Florence* will often be quoted in this article, states that in 1296 "the Matriculation Roll of the Guild was adorned with its most celebrated name in the annals of Florence—the immortal writer of the *Divina Commedia*—Dante Alighieri." All are not agreed as to the year of Dante's registration, some thinking that it took place in 1295 (it could not have taken place earlier by reason of one of Gian della Bella's ordinances, which fixed 30 as the minimum age, and Dante did not attain that age till 1295), and others being of opinion that it was as late as 1297; but in one or other of these years, or in 1296, the inscription of *Dante Alighieri poeta Fiorentino* was made in the *Register* of the Guild of Physicians and Apothecaries. By virtue of his entry into this guild, Dante took the first step into the public life of his time, a step which was to lead him, before many years had passed, into lifelong exile. But what was its significance from the standpoint of the practice of medicine? This suggests the second meaning of the question, Was Dante a medical man—a doctor?

We may inquire whether Dante actually studied medicine as a student in Bologna or elsewhere, whether his entry into the Guild of the Physicians and Apothecaries entailed any test of his knowledge of medicine, and whether he ever actually practised the art of healing. To none of these inquiries can a definite reply be given, but we can make surmises, and there is evidence (of the oblique kind it must be admitted) upon which to found certain conclusions. Our evidence and our surmisings may be grouped together as follows:—First, we shall consider in their order the guild system of Florence and the significance of enrolment in it; the special history of the Guild of Physicians and Apothecaries, its rules, requirements, tests, privileges, and the like; and the reason or reasons which may be supposed to have led Dante to choose one rather than another of the guilds of his native city. Secondly, we shall look at the information which is obtainable regarding medical education in Italy at the close of the thirteenth century, and try to apply it to the known facts of Dante's life. Thirdly, we shall scrutinize the evidence of special knowledge of medicine and of familiarity with disease and death furnished by the reading of the *Divina Commedia*, the *Convivio*, and the *Vita Nuova*. Thereafter we shall possibly be able to reach a conclusion concerning Dante's connexion with the medical life of his time.

### *The Guilds of Florence.*

The Florentine guilds had their origin in the *collegia*, *scholae*, or *corpora* of ancient Rome, corporations of merchants and artisans, formed for the purpose of teaching the crafts to young men and boys, and for safeguarding the interests of all involved. They flourished till the fall of the empire. Doubtless their memory lived on even in the darkest years of the Dark Ages, and in the ninth century an attempt was made to restore the *scholae*, or to found institutions closely resembling them. In the year 825 A.D. the Emperor Lothair issued what were known as his *Constitutiones Olonenses*, whereby power was given to eight cities in Northern Italy (Bologna, Cremona, Florence, Ivrea, Milan, Padua, Turin, and Venice) to establish *scholae*. In Florence these were named *capitudini* or *arti*, although it was not till the first year of the twelfth century, in the days of the Countess Matilda, that consuls were appointed at the heads of the industries. Here is an account of how the city was governed in 1204; it is quoted from Edgcumbe Staley:

> At the head were two Consuls—called the Military Consuls—precursors of the Podestà and Capitano del Popolo, then three Priors of the three principal Guilds—Calimala, Wool, and Bankers—next six Senators of the City, one Officer of Justice, twelve Buonuomini, Good Men—two representing the people of each sestiere,—and lastly, Special and General Councils of influential citizens. . . . This magistracy exhibits the immense power of control in public business—both commercial and political—exercised by the representatives of the Guilds, for the six Senators of the City were appointed—one by each of the six Greater Trades, in fact they were the Consuls of the Guilds.

Mention is here made of the Greater Trades, and the statement implies the existence of Lesser Trades.

> In 1236 thirty-six Buonuomini assembled in council at the residence of the Consuls of the Calimala merchants, by special ordinance, to determine the styles and precedence of the principal trade-corporations working in Florence. They placed them in two divisions which they called Greater and Lesser Guilds, respectively—accentuating thus the distinction between the popolo grasso and the popolo minuto. In the former category they arranged in the following ordor: 1. Giudici e Notai—Judges and Notaries; 2. Mercatanti o Arte di Calimala—Merchants of the Calimala; 3. Cambio—Changers of Money; 4. Lana—Woollen-Manufacturers; 5. Seta—Silk-Manufacturers; 6. Medici e Speziali—Doctors and Apothecaries; 7. Pellicciai e Vaiai—Skinners and Furriers. In the second category were placed the following Crafts: 1. Beccai—Butchers; 2. Calzolai—Shoe-makers; 3. Fabbri—Black-smiths,

and so on, concluding with "14. Albergatori—Inn keepers."

Thirty years later, in 1266 (the year after Dante's birth), another important step was taken in the advancement of the guilds. Count Guido Novelli, who had been Podestà for two years, was succeeded by two Frati, a Ghibelline and a Guelph; the new Podestàs were installed in the Badia, and were assisted in the government by thirty-six Buonuomini chosen by Novelli from the merchants and artisans. The council, thus formed, took up as part of its work the reorganization of the guilds. A list of the six more important corporations was drawn up, at the head of which the Guild of Judges and Notaries retained its place; for each guild three chief officers were elected, a Consul, a Capitudo (Master), and a Gonfaloniere (Standard-bearer); and in this way each guild became virtually a body of armed men. But this change was opposed by the aristocratic party of the Grandi, acting in concert with the Ghibelline Podestà, and the movement was delayed; but after a time we find democratic influences prevailing, and a court of final appeal in all causes, made up of the Consuls of the seven Greater Guilds established. Signs of the rising importance of the Lesser Guilds, were seen in 1280, when five of them (the Butchers, Shoe-makers, Smiths, Master Masons, and Retail Cloth Merchants) were formed into a group of Intermediate Guilds; on several occasions (for example, in 1285, 1287, 1293, and 1297) the Consuls of these guilds joined those of the Greater Guilds in associated consultation, and in this way they acted as a check upon democracy and aristocracy alike. In 1282 we read of the guilds electing three priors, along with a new officer, the Defender of the Crafts and Guilds; in the following year, three more priors were added, one of whom was appointed by the *Arte de' Medici e Speziali*. In 1292 there is notice of erasure of names of offenders from the Matriculation Registers of the guilds; and in 1293 were passed the famous *Ordinamenti della Giustizia*, the Magna Charta of Florence. The passing of the *Ordini* was in large measure the work of Giano della Bella, a noble acting on the popular side. The powers of the Grandi were thus considerably curtailed, and no longer was the office of prior open to any Grande who was a member of a guild, for he had now to renounce his rank with the public approval of the Council of State. Further, every member or apprentice of a guild had on entry to take a solemn oath for the maintenance of peace and concord. The statutes of 1301 were the result of deliberations on these Ordini; they were unanimously adopted, and signed by representatives of the seven Greater Guilds. It is interesting to find that now the signatures of the four Consuls of the Guild of the Physicians and Apothecaries follow immediately after those of the Judges and Notaries, and so come to occupy the second place among the guilds, whereas formerly they were sixth. In wealth, also, a rearrangement of the guilds was taking

place, and, judging from a list of taxes paid in 1321 (the year of Dante's death), the Guild of Doctors and Apothecaries took the third place, the Guilds of Wool and Silk being first and second, and the Butchers fourth.

*The Guild of Physicians and Apothecaries.*

Having now traced the history of the guilds of Florence from the beginning up to the end of Dante's life, let us look more particularly at the special guild to which the great poet belonged.

In the year 934 A.D. there is record of an "Amalpertus—diaconus et medicus" (minister and doctor) in the archives of Florence; he was styled "Domino Messere." In 1070, 1090, and in subsequent years mention is made of other medical men, until, early in the twelfth century they were incorporated into a guild, which must soon have acquired considerable power, for the signatures of its consuls, as representing "the Guild of the Doctors and Apothecaries," are appended to a document written in 1197. Edgcumbe Staley (op. cit., p. 238) further records that somewhere about the year 1218 there is evidence of the existence of a College of Doctors and Apothecaries established on similar lines to the old Roman and Imperial *collegia*.

Its members included not only doctors, apothecaries, physicians, and chemists, but also surgeons and midwives; the two latter classes were, however, quite insignificant and subordinate.

Taddeo d'Alderotti, to whom Dante refers in the *Paradiso*, was the founder of the Florentine school of medicine; he was made a professor of medicine about the year 1278, when Dante would be about 13 years old. Among his pupils were Dino del Garbo, his son Tommaso, Giambattista Torregiano, and Michele Vieri, all distinguished members of the medical and surgical faculties of their day. The guild was evidently prospering, if we may judge from the large fees that were paid to Taddeo, and by the fact that one of the priors chosen in 1282 was a member of it, and we do not forget that when Dante was made a prior in 1300 it was as a representative of the Guild of Physicians and Apothecaries.

The *Ordini* of Giano della Bella of 1293 applied to the Guild of Physicians as well as to the others; a merely nominal enrolment in one of the Greater Guilds was no longer sufficient to open the way to public offices. No one could be elected prior who was not actually practising the business or art of his guild (Plumptre, *Life of Dante*). Further, Staley states that there was a statute which laid it down that

no doctor may be admitted a member of the College, nor be allowed to practise, unless he has first been publicly examined by the Consuls of the Guild;

and adds:

this was doubtless, more or less, a perfunctory exercise, for the candidate had already obtained his degree and qualification at his university; it had reference, probably, to social standing, and, not a little, to the good conceit the applicant had of himself!

Plumptre says that it is not unlikely that admission to that guild (the one of the doctors) implied an examination; and Dr. Sutherland Black (in Dr. Whyte's *Dante Illustrations and Notes*, p. 61) goes so far as to name Dioscorides's *Materia Medica* as the book which Dante no doubt read in connexion with his professional studies as a physician. As has been said already, Dante matriculated in the guild about the year 1296.

There seems to have been no examination for the apothecaries, who were doubtless associated with their more aristocratic brethren for their mutual benefit. To quote again from Edgcumbe Staley (op. cit., p. 251):

They were not looked upon as men of science, and in early times, at all events, they were not obliged to undergo any educational test beyond that of being able to decipher the infamous handwriting of the *Messeri Medici*. They were regarded in the light of assistants to the medical faculty, and convenient agents for the sale of various small commodities.

In Dante's age it was a not uncommon custom for a doctor of medicine to fix his professional residence and consulting-room at an apothecary's, and an agreement was come to whereby the doctor prescribed only drugs sold by his own apothecary. But it is unnecessary for our present purpose to consider the apothecaries any further.

The doctors, physicians, and surgeons of Florence all told did not number more than 60 out of a population of 100,000 in the first half of the thirteenth century; but they were more numerous in the second half—that is, in Dante's times, when Guglielmo di Saliceto da Piacenza wrote his treatise on surgery. In 1300 there were nearly one hundred apothecaries in Florence (Villari), and through them the guild came to have its connexion with the following long list of subordinated crafts: Hairdressers and barbers, goldbeaters, capmakers, glass-blowers and bottlemakers, jug and dish makers, purse-makers, truss and suspender makers, straw and felt hat makers, paper makers, stationers, wax chandlers and makers of wax figures, quack doctors, cutlers, sheath and case makers, makers of bleaching media, well rope and gearing makers, lantern-makers, makers of small linen articles, booksellers, mask-makers, dealers in raw silk and sundries, makers of catgut for musical instruments, makers of gilded leather articles, tennis bat and ball makers, comb-makers, perfumers, potters, etc.

Everything of an aromatic nature, or pleasing to the eye, no less than every ingredient useful in the *Pharmacopoeia*, became articles of barter and traffic.

A glance over the above list, containing as it does books and paper, will prepare the reader for the following statement:

With something like the catholicity of a beneficent Alma Mater, the Guild of Physicians and Apothecaries extended its sheltering patronage to numbers of objects and interests not at first sight necessarily associated with medicine, surgery, and drugs. Literature, Painting, and Geographical Discovery alike benefited from the fostering care of the Guild.

Of the famous literary men who followed Dante in the guild of the doctors we have not space now to speak; but it may be mentioned that by-and-bye printing and selling books and the making of wood and copper engravings all came to belong to this guild. Finally, about the year 1297 (when Dante was a newly admitted member), the Florentine painters placed themselves under the banner of the Guild of Doctors and Apothecaries. "Great Guild it truly was . . . it yielded to none in the loftiness of its aims, and in the splendour of its achievements."

*Dante's Choice of a Guild.*

From what has been written above regarding the guilds of Florence in Dante's day, it will not be difficult to trace the reason or reasons which led him to enter one of these corporations. Florence was enjoying a period of amazing commercial prosperity, and the trade guilds and associations were able more and more to get control of the affairs of the city. For one not of the upper classes—Dante was the son of a notary—the only way to public office was now through one of these guilds. But, further, the Renaissance had set learning free, and knowledge could now be got outside as well as inside the cloister; and it was no longer any hardship to a knowledge-loving and literary man like Dante to enter a trade-corporation, for "one of the civil phenomena of the times of the Republic in Florence—and one very difficult to understand from our present point of view of educational economy—was the union in the persons of merchants and artisans, of fine literary taste and scholarly culture, with rare qualifications for political office and keen instincts for commercial enterprise." There need be no difficulty in understanding why Dante registered as a member of one of the Florentine guilds in the closing years of the thirteenth century.

But why did he choose the Guild of the Physicians and Apothecaries? His choice may have been determined by more than one motive. We have seen that this guild occupied a high place, both in social standing and in wealth, among the others; and to a proud man this may have been an attraction. Then it was one in which, more than in any of the others with the possible exception of that of the Judges and Notaries, intellect and literary ability were welcomed and were, indeed, almost essential. Edgcumbe Staley says (op. cit., p. 265): Dante "was sent to study law at Bologna, and philosophy at Padua; but having no taste for either faculty he matriculated in 1296 in the Guild of Doctors and Apothecaries"; and he suggests that "his choice may have been dictated by his fondness for literature, because books were among the wares sold exclusively in the pharmacies." Plumptre (op. cit., p. 87) gives yet another reason when he says that, as was natural in a student of

natural science, he (Dante) chose the Guild of Physicians and Apothecaries. But it is possible that he may also have been led by a certain degree of liking for the study of medicine. Dante had indeed so encyclopaedic a mind that it is difficult to say that there was any one part of the world of knowledge that he cared for more than another; but there are traces in his writings of an interest in and an acquaintance with medical matters which at least suggest that medicine was not the least attractive of the subjects which occupied his time. To these traces we shall refer immediately. Finally there is yet one other circumstance, which may have had some power with him. It is well known that Beatrice was the great influence in Dante's life, and that her memory was warmly cherished by him in the years that immediately preceded his admission to the Guild of the Doctors. Now it has been discovered that in the year 1285 Folco Portinari, Beatrice's father, founded the Spedale di San Matteo, the nucleus of the Spedale di Santa Maria Nuova, which still exists, by taking a house in the Piazza di Santa Maria Nuova, and endowing seventeen beds in it for the sick poor. Three years later, in 1288, the actual hospital was completed and opened. A little while afterwards Folco died (on December 31st, 1289), but while he lived he took an interest in his hospital; and Edgcumbe Staley, in his work on *Famous Women of Florence*, states that his wife and children loved to visit the patients and minister to their necessities. Among the children would certainly be Beatrice until the spring of 1290, when she died. Further, there is good reason to believe that Dante's friend "next in order after the first" was none other than Beatrice's brother. If we place all these facts and circumstances together, we can scarcely help wondering if Dante were not in some degree influenced in his choice of the guild through which he was to enter public life by the consideration of the close connexion existing between the Portinari family and this early medical charity of Florence. Some years after Dante's death we read of members of the first Order of the Guild of Doctors and Apothecaries, paying daily visits to the wards of the Hospital of Santa Maria Nuova, and it may well be that in his lifetime Dante was one of these visiting physicians. When we think of Dante's *Vita Nuova* and of his intense devotion to the memory of Beatrice, we can hardly be accounted fanciful if we regard the Portinari Hospital as one at least of the determining factors which led the young poet to the Guild of the Physicians. Doubtless there were other factors—the love of power, the desire for knowledge, the political necessity, the interest in manuscripts, music, and painting; but it cannot be denied that in this, as in so many other events of Dante's chequered life, the Beatrice-influence was not wanting.

*Dante's Connexion with Universities.*

At the time when Dante may possibly have gone to a university—namely between the years 1280 and 1295—there were several places in Italy and in other lands to which he might have directed his steps; and some of his biographers have stated that he studied at the universities of Bologna and Padua, but Paget Toynbee (*Dante Alighieri*, p. 92, 1904) writes, "there is no evidence to support this statement, which is probably little more than a conjecture." Toynbee is further of opinion that Dante was largely his own instructor, and that at the age of 30 (1295) his knowledge of the classics was neither extensive nor deep, consisting of some acquaintance with Aristotle, Ovid, Lucan, Horace, Virgil, Ptolemy, and Alfraganus, along with greater familiarity with the Bible, Cicero, and Boëthius. If this be so, then Dante must have enormously increased his store of learning after his exile from Florence, and he must also have known next to nothing about medicine when he registered in the Guild of Physicians (1296). I am inclined to place more of his acquisition of learning in the ten years of which we know so little—from 1285 to 1295—than Toynbee allows; and I think it is hardly safe to judge of the poet's knowledge from the authors he happens to quote in a prose poem like the *Vita Nuova*. There is nothing which absolutely shuts out the possibility of Dante having visited a university in these early years. There was the ancient university at Salerno, where for two centuries before Dante's time there had been a flourishing medical school; but in the second half of the thirteenth century its fame was passing away, and the popularity of the medical faculties of Bologna and Montpellier was in the ascendant. There were universities also at Padua (1222), Naples (1224), and Rome (1245); and outside of Italy, and in addition to Montpellier, there were schools of learning at Paris, Toulouse, Salamanca, and elsewhere. But if Dante studied anywhere in the years which preceded his enrolment in the Guild of the Doctors it would almost certainly be at Bologna, which was not far removed from Florence, whose scientific medical school was most probably founded by Thaddaeus of Florence (Dante's "Taddeo," *Par.*, xii, 83) in 1260, and where the medical student was examined in Galen's *Liber Tegni* and the *Aphorisms* of Hippocrates (Rashdall's *Universities of Europe*, i, 247), the very works to which Dante refers in his allusion to medicine in the *Convivio* (I, viii, 30–40). We have, however, no facts to rest upon,* and we must reluctantly own that it cannot be affirmed that Dante received any university training to fit him for the Guild of Physicians and Apothecaries or to enable him to pass what may perhaps be called the entrance examination. That he knew not a little about medicine cannot be doubted, as we shall see immediately from the authors to whom he refers in his works and from allusions to medical subjects which he makes; there is also evidence that he was in both Bologna and Padua during his exile (that is, after 1300), probably in Paris, and possibly in Oxford; but that he was in any sense a medical student before the year 1295 can only be surmised from what we read in his writings.

*(To be continued.)*

## LITERARY NOTES.

THE *Strand Magazine* recently offered a prize of £50 for the best medical story, either fact or fiction, which was to be written by a qualified medical man, and which had to be sufficiently interesting and well written to justify its publication on its own merits. In response to this offer large numbers of stories were sent in, and the February issue of the *Strand* contains the story which has been adjudged to be the best. The story is entitled "Under the Microscope," and the author is Dr. J. Bart Rous, Sub-editor of the *Lancet*, to whom we offer our hearty congratulations.

We have received the first fasciculus of a large work on the treatment of abnormal children. It is entitled *Enzyclopaedisches Handbuch der Heilpaedagogik*, and is edited by Professor A. Dannemann of Giessen, with whom are associated two members of the scholastic profession, Herren H. Schober of Posen, and E. Schulze of Halle. Among the collaborators are medical men, clergymen, teachers, and others having special experience in the management of children. The work, which is arranged alphabetically, will deal with the special bodily and mental constitution of abnormal children, their rearing and education, and the care of their health. It will consist of ten fasciculi, which will appear monthly. The publisher is Carl Marhold of Halle.

In a monograph entitled *William Shakespeare and Timothy Bright*, Mr. Matthias Levy gives an interesting account of Timothy Bright, M.D., said to be the first man in England who invented marks to represent words. He was born in 1551. On May 21st, 1561, he matriculated as a Sizar at Trinity College, Cambridge. His name appears in the College List presented to Queen Elizabeth at Oxford in 1564. He graduated B.A. in 1567–8; went to Paris and studied medicine; and in 1572 narrowly escaped the massacre of St. Bartholomew's Eve. Returning to England, he graduated M.B. Cambridge, 1574; Licentiate of Medicine, 1575; and was created M.D. 1579. He wrote and published medical works 1581–83; and in 1586 was Physician to St. Bartholomew's Hospital, London. Later Bright gave up the medical for the clerical profession. He was Rector of Methley in Yorkshire, July 5th, 1591, and of Berwick-in-Elmet December 30th, 1594. He made his will August 9th, 1615, and died in the same year, his will having been proved at York, November 13th, 1615. In 1586 Vincent Skinner, in

* The supposition advanced by some commentators that the occasion of the departure of Dante from Florence, referred to in the *Vita Nuova* (§ ix), was a visit to Bologna to prosecute his studies is founded on no certain evidence.

a letter of that date, recommended him to the notice of Michael Hicks, secretary to Cecil, as being desirous of teaching his art to Robert Cecil. Queen Elizabeth granted Bright a patent, dated July 26th, 1588. He published in 1588 a treatise, entitled *Characterie, an arte of shorte, swifte and secrete writing by character. Invented by Timothe Bright, Doctor of Phisike. Imprinted at London by I. Windet, the assigne of Tim. Bright, 1588. Cum privilegio Regiae Majestatis. Forbidding all others to print the same.* There has, says Mr. Levy, been a most unfortunate misunderstanding as to what are called Timothy Bright's manuscripts relating to Shakespeare. There are no such documents in existence. There are no manuscripts of Shakespeare, either in longhand or shorthand, and the Timothy Bright manuscripts do not relate to Shakespeare.

In the JOURNAL of last week (p. 275) a full description was given of the scope and aims of the new periodical, *L'Hygiene*. We have now received the second (January) number, and one of the most interesting articles in it is an account by M. E. Levasseur, Administrator of the Collège de France, of the "Pouponnière" of Versailles, an institution for the rearing of children, for the care of unmarried mothers, and for the assistance of married women who, with young children on their hands, have to earn their living. It was founded about twenty years ago by two ladies, Mesdames Charpentier and Manuel, and among its early patrons were Pasteur and Jules Simon. Among the members of the Medical Committee are Dr. Roux of the Pasteur Institute, and Dr. Méry, Physician to the Hospital for Sick Children. The illustrations seem to justify the name of "Children's Paradise" given to the institution. M. Georges Vicaire continues his amusing article on the cookery of our forefathers, who had no food fads, and apparently were mighty drinkers as well as robust trenchermen. We have often wondered in reading of the Gargantuan feasts of the fifteenth and sixteenth centuries, and of the amount of food devoured by Dr. Johnson within a few months of the end, whether the human stomach has degenerated? Or are we paying the penalty of the gluttony and intemperance of our forebears? Among the pictures we would especially single out a reproduction from the *Heures de Henri II* in the Bibliothèque Nationale showing the King touching for scrofula; one of a picture by Dom. di Bartolo of the Hospital of Santa Maria de la Scala of Siena, giving a view of a mediaeval hospital interior; and one of a detail in a tapestry by Ant. Coypel in the Palace of the Archbishop of Aix-en-Provence, showing Sancho Panza before a table copiously furnished forth with appetizing viands, and the physician at his side with his wand forbidding the unfortunate Governor of Barataria to indulge his appetite.

We have received the January number of a periodical entitled *The Herald of the Golden Age*. Apparently the advent of the "golden age" is to be brought about by living on fruit and avoiding the eating of meat; this is described as "a violation of one of the most important physical Laws of Health which govern Man's being, and consequently the cause of a large proportion of the Pain, Disease, Suffering, and Depravity, with which our race is cursed." Dr. Robert Bell, who contributes an article on natural diet *v.* disease, complains that "the majority actually make themselves believe that the corpses of animals are necessary accessories to the food of mankind." Would he have us eat the bodies living? He appears to consider the eating of the flesh of animals, particularly swine, as "cannibalism"! Really, we must ask the advocates of the "simple" diet to speak for themselves. If we may judge from its intellectual results, the simplicity would seem to affect not the body alone but the mind. Mr. Sidney H. Beard is doubtless as "able" as all editors proverbially are, but he should know that "*facile descensus averni*" is not a form of human speech. Perhaps, however, dog Latin is considered appropriate in a journal in which the interests of animals are so prominent a feature.

Nearly all savage people dread lest the dead should return to trouble them. For this reason an Australian tribe will always desert a camp in which a man has died and erect new mia-mias at some distant spot. Among many African tribes a hole is knocked in the wall of a hut in which a man dies, and the corpse is carried through that, instead of through the doorway, so that the spirit of the dead man may not be able to find its way back. Some Bornean tribes evidently have a similar dread. Dr. Charles Hose, a member of the Cambridge Anthropological Expedition to unexplored Borneo, writing in the February number of *Travel and Exploration*, describes the precautions that are taken to prevent the dead from returning to the living. At the graveyard, a stick, cleft in the shape of a V, is placed in the ground, and through this the funeral procession passes in single file. Dr. Hose says:

> As soon as the coffin had been placed on the stage erected for the purpose the people commenced their return, following one another's heels as quickly as possible, saying as they repassed through the V-shaped stick, "Keep back, close out all things evil and sickness." When the whole party has passed through the cleft ends of the stick are tied together, and this is then regarded as "a wall that separates the living from the dead." By so doing they believe that they shut out the spirit of the deceased. They believe that the spirit of the dead is not aware that life has left the body until a short time after the coffin has been taken to the graveyard, and then not until the spirit has had leisure to notice the clothes, weapons, and other articles belonging to its earthly estate, which are placed within the coffin.

Sir Edward Barry, a short account of whose career appeared in this column in the JOURNAL of January 29th, p. 274, was the first Irish medical writer who dealt with consumption. He published a work entitled, *On a Consumption of the Lungs*, in 1726. In the January number of the *British Journal of Tuberculosis* Dr. T. Percy C. Kirkpatrick gives an account of the work of other Irish physicians of the eighteenth century who wrote on the subject. In 1739 John McEogh published *A Short Treatise on the Diagnostic and Prognostic Parts of Medicine*, in which, after describing the symptoms, he says:

> If this disorder is inveterate, it is for the most part incurable; but if recent, the cure is easier.

He recommended in its treatment "a water distilled from shell snails in canary wine in the month of May." In 1764 Thomas Marryat, a Dublin physician, published a *New Practice of Physic*. He also believed in the restorative effect of snails. Speaking of the cure he says:

> A milk diet or that of meat broths, as strong as the stomach will bear, especially of port (by the use of which I've seen miracles perform'd), and riding on horseback, are things absolutely necessary. A warm, dry, clear air . . . snails or earthworms boil'd in milk . . . conserve of red roses to the quantity of two or three ounces a day.

He had tried the method on himself after being given up by "two judicious and learned physicians," recovered in six weeks, and at the time of writing was "as healthy and hearty a grey-headed old fellow as any one in His Majesty's dominions." It 1772 David MacBride, a Dublin physician of great reputation, published *A Methodical Instruction to the Theory and Practice of Physic*, in which he says that if persons with the "morbific disposition" transmitted from their parents "can by temperance and care, and by living in a pure atmosphere, distant from the smoke of large towns, get beyond their thirty-sixth year, they may probably pass the remainder of life with tolerable security as to a phthisis." Another Dublin doctor, in a small book on physic published in 1785, recommends that "the patient should breathe a pure country air, and should ride on horseback every forenoon, unless he have been liable to a spitting of blood, and then he had better use a carriage." In an *Enquiry into the Nature, Causes, and Cure of the Consumption of the Lungs*, published in 1787, Michael Ryan of Kilkenny protests against "the extravagant stories of cures as due to the mineral waters." In a treatise entitled *Advice in the Consumption of the Lungs*, published in Dublin in 1798 by Michael O'Ryan, "late Professor of Medicine in the College of Lyons in France," the author lays stress on preventive measures, but urges that when hectic fever is once established the patient should be protected from fresh air. He says:

> The cough and the pains which attend it, the difficulty of breathing, etc., become more violent and distressing by breathing the purest or more copiously *oxygenated air*, than by that which is contained in the room which the patient inhabits, or even in stables or cowhouses.

Perhaps, says Dr. Kirkpatrick, it is to teaching such as this that some of our present-day difficulties in inculcating the use of fresh air are due.

British Medical Journal.

SATURDAY, FEBRUARY 5TH, 1910.

## THE INTERIM REPORT OF THE SPECIAL POOR LAW REFORM COMMITTEE.

IT would hardly be possible to give a more forcible demonstration of the absurdity of the present system, or, rather, want of system, of medical assistance in England than is contained in the Interim Report of the Special Poor Law Reform Committee of the British Medical Association, which is published in the SUPPLEMENT to-day. It is not too much to say that the whole system, disguised though it be under a garb of public philanthropy, is a huge machine for the wholesale manufacture of paupers, and, what is still worse, of parasites on society. While it often encourages the worthless, it often fails to meet the legitimate needs of the deserving.

In considering the report, we wish in the first place to lay emphasis on Paragraph 5, which urges that "general questions of politics and social theory should be avoided." Neither the Association nor its JOURNAL is either Liberal or Conservative, Socialist or anti-Socialist, Fabian or anti-Fabian, and it would be a calamity if reform of the Poor Law, and especially of the Poor Law medical service, were made a battle-ground on which Socialists were on one side and anti-Socialists on the other. This is specially important, as it is quite certain that, in proportion as the Association shows itself free from party bias, in the same proportion will any Government that undertakes legislation be inclined to pay regard to its recommendations on professional matters, on which alone the Association can claim to speak with authority.

Broadly speaking, the interim report is intended to demonstrate three things: first, the necessity for reform of existing systems of medical relief; secondly, the necessity for further inquiry into the medical aspects of Poor Law reform and other agencies for medical relief, such as can only be made by a departmental committee; and thirdly, the paramount necessity of organization of the Divisions of the British Medical Association if the opinion of the profession is to carry due weight with the Government and the Legislature.

In considering these points the Divisions will keep always in mind the interests of the community at large, the interests of the profession as a whole, and the interests of individual members of the profession, whether existing medical officers or future medical officers under any new scheme, for all these interests are interdependent. No system that is unfair to the profession or to its individual members can for long be satisfactory to the public, and no exploitation of the profession will ever induce the ready and willing service essential for the public welfare. On the other hand the profession has a duty to the community, and any appearance of mere self-seeking would at once rouse public opposition, which is unfortunately only too ready to manifest itself.

Dealing with the three points named in order, the necessity for reform of existing systems of medical relief is forcibly shown in the report. The reports of the Poor Law Commission both contain eloquent denunciations of the wasteful overlapping of one public service with another and of all public services with medical charity and provident medical institutions, but the table given in Appendix II of the Interim Report is even more eloquent in the bare simplicity of its details. It tabulates practically every form of medical relief given by public and voluntary agencies, and it will be seen that in nearly every case the same kind of service is rendered by some agencies only after strict inquiry into the ability of patients to pay for it, by other agencies after a test which is variable and sometimes eccentric, and by others after no test at all. In practice this means that anybody can obtain medical assistance for nothing somewhere or other, while at the same time it may happen that the service is deficient in certain respects, because one agency depends on another to supply what it either cannot or will not supply itself. On the other hand, it often happens that there is a woful waste, as several agencies supply some particular form of relief which one agency alone could amply supply.

Besides showing the overlapping and eccentric application of tests by the different agencies, the table will be of the greatest use when Parliament comes to define in a consistent code what services shall be free to all and what shall be charged for. It will be easy, for instance, to pick out from the list those services which are purely in the interest of the community at large, and only in a secondary way in the interest of the individual; and in such cases arguments might well be advanced in favour of the service being free to all. On the contrary, other forms of service named in column 1 of the table may be grouped as being solely in the interest of the individual, and here patients might reasonably be required to pay according to their ability.

Another fact becomes almost self-evident from the table, namely, that no reform of the Poor Law medical service will be of any real use unless it is accompanied by a reform of other medical agencies. The existing chaos is by no means the fault of boards of guardians alone. Take, for instance, item 12 in the first column, "Provision for disease or injury not necessitating rest in bed"—it would be quite useless here to impose stricter inquiries into patients' means under the Poor Law, if every such patient can obtain free medical attendance elsewhere with no test at all. Even if what is called a "unified public medical service" were adopted, in which all forms of medical aid provided by the Poor Law, the sanitary, and the education authorities, were brought under one authority, no tests as to ability of patients to pay for medical assistance would be of the least use if a charitable hospital or a free dispensary or a medical club without a wage limit were ready at hand for well-to-do persons mean enough to take advantage of them. The strict inquiry of one agency would simply be stultified by the laxness of another. In short, the Special Poor Law Reform Committee would appear to have become more and more convinced during its deliberations that reform of the Poor Law medical service is inextricably bound up with reform of all kinds of charitable and provident medical agencies. It is a fundamental necessity that the spheres of public services and charitable agencies should be carefully and accurately delimited.

This brings us to the second point—one on which the Special Committee lays great stress—that is, the necessity for such further investigation as can only be carried out by a departmental committee

appointed to consider the organization of medical assistance, and especially the co-ordination of the work of the various agencies now administering such assistance. The Council of the Association has already, at the instance of the Committee, urged on the Government the appointment of a departmental committee. In this it is in full accord with both the Majority and the Minority reports of the Royal Commission; while Dr. Downes, one of the commissioners, is emphatic in saying that the Royal Commission was not fully equipped to deal with the difficulties in detail involved in the mutual relations and the need for reciprocity between provident agencies, voluntary hospitals, and any system of public medical service. We have no hesitation in saying that neither the Majority nor the Minority schemes for a medical service is complete. The profession is faced by the difficulty that any complete scheme of reform involves some State interference in, or at any rate some State guidance of, charitable agencies.

As Appendix II demonstrates in detail, charitable agencies do not at present simply amplify and supply deficiencies of the public service; rather do all the agencies seriously overlap, compete with, and so stultify one another. The problem is to co-ordinate public and charitable agencies without at the same time drying up the springs of private charity. Municipalization of hospitals, even if it were proved to be good in some respects, would not meet half the difficulties. The hospitals would of course soon lose all charitable subscriptions if public funds were available for their support; but it can hardly be doubted that fresh institutions wholly supported by charity, and controlled by voluntary boards of management, would immediately arise, and the old competition and mutual stultification begin anew.

There is the most urgent need for reform and organization of medical assistance, but further inquiry by a departmental committee, properly equipped, and on which the medical profession should be properly represented, is an absolute necessity, if reform is to be efficient and lasting.

Meantime, the profession cannot afford to be caught napping. Responsible Ministers of the Crown have foreshadowed early legislation in the direction of sickness and invalidity insurance. Such legislation could not fail to influence present forms of contract medical practice. It might even be the means of vastly extending forms of contract practice which would seriously injure private practitioners. In view of this risk it would appear to be the urgent duty of every Division to have its machinery in full working order, to know its own mind, and be ready to press its views on public authorities. Public reforms will certainly not wait the convenience of the medical profession, and if the profession is not itself organized, it will inevitably suffer. There is far too much criticism by the drones of the Association directed against the workers. The need is for personal work by the critics themselves. The mere machinery of the Association is sufficiently complete for the purpose in hand, but the most perfect machinery will be useless failing the motive power of a united profession, strong enough in its convictions to sink all minor internal differences.

We earnestly commend this Interim Report to the attention of the Divisions, and indeed of every individual member. A careful study of it will be the best preparation for consideration of the recommendations that will follow from the Special Committee in due course.

## THE FUNCTION OF THE MEDICAL PROFESSION.

IN an article published in the JOURNAL of November 13th, 1909, under the title of The Doctor as a Social Force, we showed, from the opinions expressed by certain leading men in France, how little the true extent of the doctor's activity is recognized even at the present day. The gist of these opinions might be expressed in the proverb that the cobbler should stick to his last. We showed that had the doctor done this there would have been no such thing as public health. Every movement for the prevention of disease, every effort for the physical well-being of the population, has come from the profession. We are glad to note that Professor Debove, in an address delivered not long ago before a fashionable audience in Paris, discoursed on the same theme and to the same tune.

After defining medicine as the science which had as its object the conservation of man and of the human species, he pointed out how vast a scope was comprised in this definition. Medical science finds applications not only in the care of the health of the individual, but in the making and administration of laws, in morals, and in the customs of social life. It explains problems of history; it often reveals the secret springs of popular movements, political, social, and religious, and the mental constitution and the underlying causes of the acts of rulers and statesmen. An orator may be deprived of his suggestive power by a headache; a diplomatist may fail in a delicate negotiation owing to the irritability engendered by an attack of the gout. An attack of indigestion has caused the loss of battles, and Napoleon's defeat at Waterloo has been attributed to the fact that he was suffering from piles. Armies have often been made powerless by dysentery and enteric fever, and up to the very end of the eighteenth century our fleets repeatedly had to creep back to port rotten with scurvy. Governments are beginning to appreciate the far-reaching effects which may be produced by such diseases as sleeping sickness and the great part that medicine plays in colonization.

Professor Debove insists strongly on the necessity to the psychologist of some knowledge of medical science. The modern psychologist knows, or ought to know, that the faculties attributed to the soul are slaves of the body; that they are modified by a slight lesion of the brain or by a slight disturbance of the cerebral circulation. But it is not the brain alone that has to be taken into account. The mental faculties may be impaired in their working by disturbance of other organs. Probably every disease has its psychological equivalent. We know how profoundly diseases of the liver and intestine, for instance, may affect the mental outlook. There is also a mentality peculiar to each sex, and in women this is often affected by the menstrual function. The effects of absence or deficiency of the internal secretions is doubtless responsible for things that would be generally attributed to the mind or character of the patient. An instance is the idiocy which so often accompanies goître and the lethargy which is a feature of myxoedema. Physiology and pathology play a part in estimating human responsibility; yet this question is daily decided by persons who have no knowledge of either of these sciences, appeals to which are often regarded as an encroachment on a domain within whose circle none dare walk but lawyers.

On the other hand, the doctor must not neglect

psychology, even when he has nothing to do with the treatment of mental diseases. Just as functional diseases underlie certain mental states, so disturbances of the mind or spirit may cause or aggravate certain bodily ailments. This is especially the case in the region of nervous diseases, but depression, grief, and mental shock, worry or fear, appear to be predisposing causes of cancer and other organic affections. A physician has to treat a human being as a whole, and of that whole the *psyche* is an essential part. He has to deal not merely with a machine which has got out of order, but with the driver, who may be the real cause of the trouble. In the history of human suffering there are, to our mind, no sadder words recorded than those of the dying Goldsmith. When Dr. Turton said to him that his pulse was more disordered than the degree of fever he had seemed to account for, and asked him, "Is your mind at rest?" he answered, "No, it is not." It is probable that if there had been any means of giving rest to the troubled spirit, the world might not have lost the author of the *Vicar of Wakefield* at the age of 45. The physician will be better able to minister to the needs of a suffering body if he is able to cleanse the stuff'd bosom of any perilous stuff that may be weighing upon the heart. A doctor who cannot operate on the mind of his patient will too often fail to act upon his body.

The province of the doctor touches on that of the moralist at certain points so closely that a word or two must be said on the subject. There is a strong objection to the physician posing as a priest, or in any way trespassing on the province of the minister of the spirit. But they should help each other, and there are some things in which the special knowledge of the doctor makes his advice useful from the moral point of view. Thus, in regard to intemperance, especially in the matter of alcohol, the doctor has a wide sphere of duty open to him in inculcating the dangers arising therefrom to the sufferer himself and to all belonging to him. Now that, happily, the evils of drink are taught in schools, the doctors must teach the teachers. The evils of sexual immorality also fall to a certain extent within the proper sphere of the doctor. There is no one more likely to be listened to by young men than he is, as he can speak with authority of the manifold foul and dangerous diseases hidden in the snares which Venus is allowed in this land of cant to set in every street. Then there is the population question, as to which M. Debove had naturally a good deal to say. He gave his audience some home truths. A hundred years ago, he said, the French represented the eleventh part of the population of Europe; to-day they constitute no more than a twenty-seventh part, and matters are getting steadily worse. In the first half of 1909 there was a fall in the birth-rate of 13,000 compared with the corresponding period of the previous year. We are by no means free from the reproach of race suicide, and in regard to this subject we find ourselves in disagreement with M. Debove. He seems to regard it as outside the sphere of medicine, and the fall of the birth-rate at a certain stage in the evolution of a nation as a law of Nature. As he puts it, when children are a source of riches, population increases. When they are a cause of poverty, it diminishes. Professor Debove says that laws and other means so far devised for the prevention of this evil have had the effect of protecting the individual to the detriment of the species. We think, however, that the doctor could do much by his private teaching to impress the evils of Malthusianism from the point of view of the community as well as the individual whenever the opportunity presents itself. Here, again, more than anyone he knows the exact nature and extent of the evil, and his advice is, perhaps, the more likely to be listened to as it comes in the form of a warning as to ill consequences that directly affect the person to whom it is addressed.

## THE MALAY "ANTI-OPIUM PLANT."

A LITTLE more than two years ago we published a short account of the Malayan plant, *Combretum sundaicum*, which was being put forward as a cure for the opium habit. Inquiries which continue to reach us with regard to this drug indicate that up to the present its reputed virtues have not been definitely established, nor, on the other hand, has it been fully proved that the cures attributed to it either did not occur or were due to some other cause. In these circumstances it may be useful to summarize the small amount of additional information with regard to it which has been made available since the previous note was published. The use of the drug originated in the province of Selangor, Federated Malay States, where the plant grows freely; the leaves and twigs are prepared for use by roasting on an iron plate over a charcoal fire. In a paper published in the *Pharmaceutical Journal* for January 18th, 1908, an account is given of a preliminary investigation of the fresh and roasted drug by Mr. E. F. Harrison, who found both to contain a resin or resins, tannin, and phlobaphene (a derivative of tannin); alkaloids were proved to be absent, and no appreciable amount of any glucoside was found, though slight indications were obtained of the presence of a glucosidal substance in very small quantity. A decoction of the drug, prepared in the manner recommended in Selangor, contained only traces of the resin, as was to be expected, and its principal constituent appears to have been tannin. Any medicinal virtue actually possessed by the drug must, of course, be ascribed to constituents soluble in water, and therefore extracted in making the decoction; the tannins of different drugs, while possessing in common an astringent character, frequently have distinctive individual properties, and it appears not impossible that bodies of this nature might be of use in mitigating the unpleasant temporary effects resulting from deprivation of opium after its use had become a habit. In an official report on the general situation in China in regard to opium by Sir Alexander Hosie, published last year, a short reference occurs to the use of this drug in breaking off the opium habit, and mention is made of a statement of an English missionary that he had employed it in about 50 cases, and in every case it had been successful in promoting a cure, but no medical evidence as to its usefulness is cited. On the other hand, a commission appointed to inquire into matters relating to the use of opium in the Malay States obtained a good deal of evidence with regard to the use of combretum; and while the opinion of the lay witnesses was divided, the medical evidence was not favourable to the drug. This evidence included that of Dr. D. K. McDowell, C.M.G., Principal Civil Medical Officer in the Straits Settlements, Mr. M. J. Wright, State Surgeon at Perak, and several native practitioners. Combretum was stated to be of no more use as a cure than ordinary Indian tea, though its astringent constituents were said to have the property of stopping the diarrhoea which otherwise often followed the withdrawal of

opium. It cannot be doubted that if the drug possessed anything like the specific properties originally ascribed to it, when its efficacy was stated to be proved in thousands of cures in a very short time, its usefulness must by now have led medical men in China and other Eastern countries where the opium question is acute to adopt it and report on the nature of its action. But even if it has failed to give results commensurate with the original claims, it is not necessary to surrender whatever assistance it is able to give as an accessory in the cure of the opium habit. It may be added that the opinion expressed in our previous note on the drug, that British pharmacy would probably provide a more suitable preparation for its administration than the crude decoction, was soon afterwards justified by the appearance on the market of an elixir, of which a notice appeared in the JOURNAL of April 11th, 1908.

## OFFICIALS IN BRITISH EAST AFRICA.

THERE appears to be need for some revision in the rules regarding leave to officials serving in British East Africa, as the conditions there do not seem to be far removed from those in West Africa, where the leave rules are more liberal. In British East Africa, although officials are entitled to four months' leave after twenty months' service, and five months after twenty-five, a man on his first tour is usually not granted leave until his six months' leave is due, that is, after two and a half years in the country. This limit of two and a half years' service in East Africa might be considerably reduced, especially for officials serving in unhealthy stations, some of which are just as enervating as stations in Nigeria, where the officials get four clear months in England after twelve months' service in the country. A good many misleading statements have been made regarding the climate of East Africa, in speeches and writings by sportsmen and tourists, who go out and have experience only of the healthiest parts of the country, and who live on the best of everything for a few weeks. So brief a sojourn is not sufficient to enable them to form a sound judgement even as to a healthy climate. These gentlemen come home after a very short time and proclaim the climate of British East Africa to be everywhere quite fit for the white man. Residents in England should ask these sportsmen if they have ever stayed for a prolonged period throughout the rains in the more unhealthy stations. A curious vagary of the Colonial Office may here be pointed out. Means of conveyance about the districts in East Africa are at present almost absent. Horses are impossible owing to the tsetse fly or other disease, and though mules are supplied as a rule, even these sicken and die. Ticks abound in some parts of British East Africa. Owing to these difficulties of means of locomotion the officials asked to be supplied with bicycles, but the Governors, presumably on the ground of economy, refused. The inconsistency of the Government lies in the fact that it pays between £30 and £40 for a mule, and yet refuses their officials £10 or so, which would purchase a reliable bicycle, and thus enable them to move about the district rapidly—an urgent matter when a fierce sun has to be reckoned with. It is understood that in Uganda the authorities have advanced considerably, for there they have insisted on having good roads, and the Public Works Department and other officers are provided with motor cycles. Would it not be possible for the Government, if it cannot furnish officials with bicycles, to grant them an allowance if they purchase their own bicycles? At present native trucks seem to be the only means by which officials can get about their work in the districts.

## ANAESTHESIA WITH ARTIFICIALLY LIMITED CIRCULATION.

THE danger associated with inhalation anaesthesia is probably actually greater in Germany than it is in England. The reason is that while a number of practitioners in this country specialize as anaesthetists, and by accumulated experience learn how to avoid a danger zone, no such specialization has as yet occurred in Germany. The estimate of the risk of anaesthesia varies in different parts of Germany, and judging from the number of alternative methods which have issued from Bier's clinic it may be assumed that a sort of inhalation narcosiphobia exists in the surgical clinic in the Ziegelstrasse of Berlin. It is sufficient to mention that Bier is more or less directly responsible for lumbar injections of cocaine and its substitutes (at present he uses only tropacocaine, and obtains excellent results from it) for venous local anaesthesia and for other modifications of conduction anaesthesia. Some two and a half years ago the number of alternatives issuing from his clinic was increased by the introduction by Klapp of inhalation anaesthesia with artificially limited circulation. This method was dealt with in a summary of an article by zur Verth published in the EPITOME of May 1st, 1909; zur Verth, however, was unable to give the data which any physiologist would require with regard to a method of the kind under consideration. These data are the relative concentrations of anaesthetic with the artificial constriction of the legs, and without such interference of the circulation. Dr. K. Hörmann,[1] who has supplied some useful information on this new method, also fails to give the desired data. He attempts to compare the amount of chloroform and ether used in persons anaesthetized with and without artificial limitation of the circulation by a constricting bandage round the thighs. His tables show that approximately half the quantity of chloroform required to produce anaesthesia under ordinary circumstances sufficed when the bandages were applied, while about one-third of the amount of ether was required. The amount of an anaesthetic required to produce anaesthesia cannot be accurately estimated from the amount evaporated in a Roth-Dräger apparatus, since this would be to assume that the anaesthesia depends on the absolute quantity used in the apparatus and not on the amount of vapour actually absorbed. The relative concentration of vapour necessary to induce and maintain anaesthesia would yield comparative results on which reliance could be placed. No bad effects of the anaesthetic were observed in any of the cases. A further advantage is stated to be that, should the patient become asphyxiated, the symptoms can be readily removed by loosening the constricting bandages.

## THE VISION OF LONDON SCHOOL CHILDREN.

THAT part of the report of the Medical Officer (Education) to the London County Council which relates to the vision of the children in the schools under the supervision of the London Education Committee affords food for much thought. It is stated that for the past two years it has been recognized that some provision must be made to treat the children whose eyes have been found to be defective. Although only a small proportion of these appear to have sought advice, the ophthalmic hospitals and the special department of the general hospitals have become so congested with school children, especially on Saturdays, that the ordinary work of the clinic is

[1] *Muench. med. Woch.*, No. 42, 1909.

seriously impeded. At the London Hospital upon one day fifty children came for refraction alone. The same sort of thing has happened at other London hospitals, and we may add at provincial hospitals also. The school clinic, with a skilled staff receiving suitable remuneration, would seem to be the only solution of the difficulty. The school authorities have no record of the condition of the child's eyes when he has been examined at a hospital. If a serious defect be detected the school medical officers can only get an account of its nature through the parents, and much time may be lost before the child is removed to a special school for children with defective eyesight. An experimental school clinic is being worked privately at Bow; it has not been established long enough to make a report, but we are told that it is paying a reasonable price for the glasses ordered. Some time ago an agitation was started to provide the London poor with cheap glasses, but inquiry shows that a strong steel frame cannot be fitted carefully to a child's face by an expert for less than the prices quoted in the report—namely, 2s. for simple glasses, 3s. for cylinders, and 4s. for compound spectacles. A soft, badly-fitting frame can be supplied for perhaps half this price, but will probably have to be replaced in a few months. The report favours the view that myopia is induced by pressure of the muscles during convergence, a theory which, so far as we are aware, is not supported by any direct evidence. The most careful measurements have failed to show any rise of tension during the act of convergence or accommodation. The fact that the high myopia is often found in one eye alone lends no support to this hypothesis. It has been found in Germany that the incidence of myopia is greater in the Latin schools than in the modern schools, and in Sweden and Germany it has been proved that there is much less myopia in schools where the pupils have regular athletic exercise in the open air. Racial idiosyncrasies must, as the report says, be taken into account; the Teuton and the Jew are more liable to myopia. In some of the higher forms of the German *Gymnasia* about 20 per cent. of the scholars are myopic.

## FULGURATION FOR CANCER

IT is now more than three years since Keating-Hart described his method of treating cancer by electric sparking. The first communication was made with becoming modesty and caution; it was not claimed that cancer had been conquered, but it was merely suggested that the new appeared to yield better results than the older methods. The results which he obtained, however, were not quite so convincing as subsequent writers, chiefly French and German clinicians, might lead the casual reader to suppose. In Keating-Hart's treatment—or fulguration, as Pozzi called it—these writers recognized the long-sought-for remedy for cancer; and even the distinguished surgeon of Heidelberg, Czerny, expressed his belief that fulguration was a marked advance in the treatment of that disease. For our own part we have waited for more convincing evidence, and that this cautious attitude was justified is shown by a report of Dr. Hans Schulz, who, writing from the university surgical clinic of Breslau,[1] records his experience of fulguration and gives sufficient details to enable his readers to form an opinion on the subject. In all, 13 patients were treated, and with the exception of one case of cutaneous carcinoma, which had not been under observation for a sufficiently long time to justify any conclusion, not one of the patients derived any benefit from the treatment. No effect was produced on the pain and discharge; recurrence took place just as rapidly after fulguration as it did after operation without it, while implicated lymphatic glands continued to grow, sometimes at an increased rate. Keating-Hart and Czerny claimed for the electric sparks an elective specific action on cancer cells, but neither has been able to prove its existence, and Schulz states that his observations failed to yield anything which could support this contention. It may be added that Bier, Abel, and Cohn, have also failed to obtain useful results from this method of treatment of cancer.

[1] *Deutsch. med. Woch.*, September 14th, 1909.

## THE FORMULAE OF SECRET MEDICINES.

A LETTER in the *Pharmaceutical Journal* of January 8th, to which reference was made on January 22nd (p. 213), has elicited other letters in subsequent issues of our contemporary showing that other pharmacists do not share the view of the original correspondent, that the differences which he pointed out between the formulae of certain proprietary medicines published in *Secret Remedies*[1] and the formulae given by the makers for the medicines sold under the same name in some Continental countries, throw suspicion on the accuracy of the analyses made for the British Medical Association. The matter is further commented on in an editorial paragraph in the *Pharmaceutical Journal* of last week, in which it is stated that "there appears to be a little misunderstanding with regard to the conditions under which proprietary medicines are sold on the Continent. Excluding from these observations the preparations which were specifically mentioned, those who have had a lengthy experience of Continental practice are perfectly familiar with the fact that in connexion with the sale of proprietary articles there is little relationship between the things that are lawful and the things that are customary. As a rule, the statements made on the labels of proprietary medicines sold in France, for instance, do not convey a correct impression of the composition of the medicines sold in France, while they do not even purport to give any idea of the composition of articles sold under the same name in other countries." This is a sufficiently emphatic confirmation of our contention that the only evidence that is of value as to the composition of a proprietary medicine at a given time and in a given place is the evidence furnished by expert analysis. Even if the law in this country required the composition of proprietary medicines to be declared on the label in the same way as it is required in France — and nothing less than this can be accepted as satisfactory—some vigilance would no doubt be necessary to prevent it being evaded or ignored; but it is pretty certain that such vigilance would not be wanting, and the consequences to a nostrum monger of being caught making a false declaration as to the composition of his goods should be sufficiently serious to act as a strong deterrent. At present it is all but impossible to secure a conviction for the most extravagant false statements about the properties of nostrums, while their composition may be almost anything suggested by the fancy of the proprietor, and may be altered as much and as often as he pleases.

[1] *Secret Remedies: What They Cost and What They Contain.* Published by the British Medical Association, 429, Strand, W.C. Price 1s.; post free, 1s. 3d.

## THE FRENCH INUNDATIONS.

THE accounts of the floods in France given by the lay newspapers last week seemed very lurid, if such a term be applicable to pen-pictures of a watery catastrophe, but our own information shows that they did no more than justice to the real situation; indeed,

they failed in some degree to bring home a true conception of the immensity of the havoc which has been wrought, since the space devoted to descriptions of what was occurring in Paris left little room for allusions to what was happening in districts further afield. A great deal of the country south of Paris has suffered more or less considerably, and Burgundy in particular, as seen from its railways, has been converted into a vast marsh. In many localities the sparse habitations are cut off from one another by quite deep water, haystacks and market produce are afloat, and hundreds of the peasantry must be ruined. It has not yet been found possible to estimate accurately the general economic loss in money, and to estimate the consequences to the general public health of France is far more difficult. However active the steps taken houses and subsoil alike must remain damp for weeks, and hence a considerable rise in the mortality classified in this ountry under the general headings of respiratory and diarrhoeal diseases must be expected. Whether any corresponding increase is likely in the death-rates from the acute infectious diseases is another question. Wherever small outbreaks of measles or scarlet fever or diphtheria, such as are common, were in progress at the beginning of the floods, the mortality will, it is to be feared, be higher than normal. There are always, perhaps, more cases of typhoid fever in Paris than in any city of corresponding size in this country, and the flooding of its streets and houses by the water from the sewers which have burst in so many parts is a circumstance which seems likely gravely to increase their number. On the other hand, the vitality of the typhoid bacillus in the presence of the innumerable organisms always present in sewage and sewers is exceedingly limited, and on this account such matter of sewer origin as has been distributed in the streets and houses of central and suburban Paris may, however nasty in appearance and odour, be comparatively innocuous. A further saving clause in the situation—and one which it is particularly pleasant for a medical journal to be able to record—is that the sanitary authorities and their allies rose nobly to the occasion. Long before the flooding of Paris had reached its height, the Société de Secours aux Blessés Militaires, with its thirty-six branches and nearly 150 nurses, was at work, assisting cases of distress and distributing provisions, and our Paris correspondent has sent us the Conseil d'Hygiène instructions immediately issued, a copy of which will be found elsewhere in this issue. But however effectual these precautions may prove against typhoid fever, the amount of sickness and physical and mental suffering left behind by these remarkable floods must be very great, so that on medical grounds alone there is ample cause for hoping that the relief fund opened at the Mansion House will be well supported.

## LABOUR EXCHANGES.

THERE is no sound reason, perhaps, for regarding the idea of Government Labour Exchanges as having originated with the late Royal Commission on the Poor Law, but it is certainly one of the few subjects on which the Commissioners were in accord. Hence, perhaps, they are entitled to some congratulation on the events of last Tuesday. On that day the new Labour Exchanges founded under the Labour Exchanges Act came into operation, and if the scenes to be witnessed at the eighteen or nineteen exchanges in London may be taken as evidence, their popularity with those for whose benefit they are more immediately intended seems assured. The precise number of exchanges eventually to be established has at present not been decided, but between sixty and seventy of these agencies are already in operation in different parts of the country. Judging from the London agencies, the arrangements are of a very practical kind, and in choosing their officials adequate attention seems to have been paid to the propriety of selecting persons accustomed to dealing with men and women from a business point of view and to gauging their capabilities for work. This is a point of the highest importance, for it is essential to the success of the scheme that the Exchanges shall become not less popular with the employers of labour than with the employed, and this can only be the case if employers find that the men sent them are really suited to their needs. It is a strong point in this connexion that a great deal of spade work has been done by the Exchanges previously established by a few of the more active municipal bodies; some of these acquired an excellent reputation among employers, and this they pass on to the Government offices, into which they have now been absorbed. The advantages of Labour Exchanges are very obvious. Instead of the would-be worker spending hours, and often a material portion of what little money he has left, in tramping the country in search of places where labour may possibly be required, he merely enters at the Exchange serving his district particulars of what work he is prepared to undertake, and then waits until a post is offered him. Should this not happen within a week he must repeat the process. An employer, on the other hand, instead of advertising his requirements, or using up the time of his foreman and other responsible assistants in hunting up the required number of men, merely sends a note of the work he wishes done to the Exchange of his choice. The necessary hands are then selected and sent, and the whole matter completed with a minimum of trouble to all concerned. Should these Exchanges acquire popularity with employers and retain it with workers, contingent advantages may accrue also to persons less obviously interested. Among the working classes are many wishful to pay such small charges as are made to them by medical men, but who are quite unable to do so owing to inability to find work; thanks to the new facilities afforded to competent workers, medical men may possibly find a slight decrease in the number of bad debts on their books. But how far these Exchanges will help to solve the general problem of unemployment, and of the poverty which creates so much of the work both of general practitioners and the staffs of hospitals, and so vastly complicates its effective performance, is quite another question. In themselves they can do nothing to create employment; they can only ensure the more rapid distribution among would-be workers of what work is going. Hence, perhaps, though the realization of this scheme may be regarded on general grounds as beneficial, and as of distinct importance in the history of the sociological progress of this country, probably the true conclusion to be reached is that the scheme leaves practically untouched the vicious circle formed by poverty, drink, and degeneration.

## THE AMERICAN PRESIDENT AND A NATIONAL HEALTH DEPARTMENT.

IN President Taft's recent message to the United States Congress there is a passage of considerable significance in regard to a movement with which a number of those who take an enlightened interest in the safeguarding of the public health are in active sympathy. The President said: "For a very considerable period a movement has been gathering strength,

especially among the members of the medical profession, in favour of a concentration of the instruments of the national government which have to do with the promotion of public health. In the nature of things, the medical department of the army and the medical department of the navy must be kept separate. But there seems to be no reason why all the other bureaus and offices in the general government which have to do with the public health or subjects akin thereto should not be united in a bureau to be called the Bureau of Public Health. . . . I am aware that there is a wide field in respect to the public health committed to the States in which the federal government cannot exercise jurisdiction, but . . . reasons can be given for the establishment of a Bureau of Health that shall not only exercise the police jurisdiction of the federal government respecting quarantine, but which shall also afford an opportunity for investigation and research by competent experts in questions of health affecting the whole country, or important sections thereof, questions which, in the absence of federal governmental work, are not likely to be promptly solved."

## LECTURES AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

THE Milroy Lectures before the Royal College of Physicians will be delivered on February 17th, 22nd, and 24th, by Mr. A. G. R. Foulerton, F.R.C.S., director of the bacteriological department of the Middlesex Hospital and medical officer of health for East Sussex; the subject selected is the streptotrichoses and their relationship to tuberculosis. The Goulstonian Lectures will be delivered by Dr. J. S. Bolton, senior assistant medical officer of Rainhill Asylum, Lancs., on March 1st, 3rd, and 8th; these lectures will deal with the localization of cerebral function, and will be based on a clinico-pathological study of mental disease. The Lumleian Lectures will be given by Professor W. Osler, F.R.S., on March 10th, 15th, and 17th, on angina pectoris. The Bradshaw Lecture and the Harveian Oration for this year will be delivered by Dr. Newton Pitt, and Dr. H. B. Donkin respectively, and the Milroy Lectures for 1911 will be given by Dr. A. E. Boycott, lecturer on pathology, Guy's Hospital.

## POOR LAW MEDICAL OFFICERS AND POOR LAW REFORM.

THE council of the Poor Law Medical Officers' Association is issuing a schedule of questions on proposed reforms in the medical branch of the Poor Law to every Poor Law medical officer in England and Wales. As the Poor Law Medical Service must be greatly affected by any of the proposed changes, it is much to be desired that the opinion of that service should be known. It is therefore hoped that as many Poor Law medical officers as possible will send answers to these questions to the honorary secretary, Dr. Major Greenwood, at 144, Stoke Newington Road, London, N., so that this, the chief representative association of the service, may obtain a reliable basis for formulating its considered judgement of the Poor Law Medical Service of the country.

IN consequence of the results of the researches of Dr. Ch. Nicolle, director of the Tunis Pasteur Institute, and of Dr. Conseil of Tunis, showing that Malta goats, which are very common in Tunis, are dangerous vehicles of Mediterranean fever, the Bey of Tunis has issued a decree forbidding the importation or carriage in Tunis of goats coming from Malta, and of the flesh or remains of these animals.

## SCIENCE NOTES.

THE present attitude of philosophical thought towards the evolutionary theories of Darwin and his predecessors is rather well expressed in a short paper by Mr. W. R. Sorley entitled the "Interpretation of Evolution."[1] Although Mr. Sorley naturally devotes most attention to evolution as applied to living matter, he treats the subject also in its broader scope, which aims at including the whole universe. The most obvious and essential characteristic of evolution is change, not necessarily always in the same direction, but the object of inquiry has constantly been to get beyond this and attempt to discover and grasp the permanent at one or other end of the succession of changes. Each advance in knowledge, unfortunately, appears to thrust the permanent further and further away. "It would almost seem as if change is the only permanent which we can get to know, as if we could grasp no other reality than the process, and as if the only thing that is constant is the law of this process, or of evolution." Biological or organic evolution is but a small part of inorganic evolution; and although the existence of life has modified to some extent its environmental inorganic conditions, this influence is limited, and it can hardly be regarded as likely to cause any change in the fundamental structure of the earth. Evolution, both organic and inorganic, involves continuity between successive stages, but it excludes the consideration of any forces acting from without the cosmos itself. Darwin interpreted the idea of continuity very strictly, and his is the theory of accumulated minimal variations. Huxley's criticism of this has found expression in the modern mutation theory of De Vries. This, however, does not destroy the continuity of evolution but simply makes the steps more abrupt. Evolution is not to be regarded merely as a process of gradual unfolding; it involves the interaction of forces, attractive and repulsive in conflict, the "struggle for existence" in the biological sense. This applies both to inorganic and organic processes. These forces may be imagined to be at any moment in a state of equilibrium or otherwise as far as any particular organism is concerned. In the latter case change is produced causing the organism to pass into some other form—that is, to evolve. For us, one of the most important questions in evolution is whether the phenomena of life can be expressed in the same terms and adequately interpreted by the same mechanical theory which apply to inorganic evolution. Here enter the difficulties of the genesis of consciousness, of man's place in the biological sequence. "No approach has ever been made to a satisfactory explanation of consciousness in terms of mechanism." The work of Darwin added great weight to the mechanical interpretation of life. Almost contemporaneously, however, Pasteur's experiments put an end to the idea of abiogenesis, and thus deprived the mechanical theory of its prime support. The various theories which have been put forward to explain this break in organic continuity at its very outset need not now be dwelt upon. The second critical question in the theory of evolution is the possibility of reducing to physico-chemical processes the processes involved in the maintenance and continuance of life. Here physiology has at times seemed to be able almost to give an affirmative answer, and there has been the tendency to regard vitality as something not essentially different from any of the other attributes of protoplasm. Actual demonstration, however, is apparently as far from realization as ever. The mechanical theory is thus manifestly incomplete, and it would appear as if we must give up the attempt to express biological phenomena in the simple terms of physics. "The method of interpretation which must now be taken into account looks from a different point of view. It seeks to understand from within, not discarding the mechanical method, but supplementing it." The principle of life appears to occupy an intermediate position between two kinds of process—namely, mechanical causation and conscious design.

A household nuisance, which we may congratulate ourselves is not excessively plentiful in this country, is the much-dreaded, devastating dry rot. It occurs, however, with sufficient frequence to be not unfamiliar. Growing insidiously in some obscure corner for months and years, it

[1] *Proceedings of the British Academy*, vol. iv, pp. 1–32.

gradually gains a more and more secure hold, until some day it makes its presence known by a cracking plank or yielding beam. Frequently it announces its arrival much earlier by sending up its hideous brown "toadstools." When the timber is examined it is found covered by mycelial threads, riven and fissured in all directions, in fact, rotten. Once such a pest is introduced into a house it is extremely difficult to eradicate, and the most prompt and drastic measures are called for. Persistent recurrence time after time is a common experience, and in some cases it is found necessary to completely gut the house of its timber. The causes predisposing to the attacks of this scourge are inadequate seasoning of the wood, dampness, and insufficient ventilation. The subject, however, is not by any means well or completely known. It has recently been somewhat fully investigated in Germany, where it appears to be very prevalent in some districts, especially since the introduction of Galician timber. Falck has made two material contributions[1] to our knowledge. In the first place he shows that the rot is not invariably due to the common *Polyporus vaporarius*. There are two distinct types of disease, the one attacking from without inwards, the other in the opposite direction. *Polyporus*, an example of the first type, forms fine fleecy, web-like mycelia on the surface of the wood and then sends processes into its substance. The other is due to various species of *Lenzites*, the wind-borne spores of which find entrance by minute chinks or are drawn in by capillary attraction. In the interior they proceed to germinate and begin their destructive work. *Lenzites* is much more formidable than *Polyporus* on account of the high degree of resistance which it offers to drying and heat, and also on account of the rapidity with which it absorbs moisture whenever available. The most important consideration, from a practical point of view, is the means of avoiding or destroying these fungi, and here, as in most other cases, prevention is obviously better than cure. A cure must be of the most radical description, and there is always the risk of leaving some of the spores in what appears to be perfectly healthy timber or scattering some about, and so renewing the infection. Preventive measures are much more successful in the case of *Polyporus* than in that of *Lenzites*. They consist in the disinfection and impregnation of the prepared timber by heating to 34° C., and treating with copper sulphate or some other suitable chemical. *Lenzites*, however, can only be destroyed at a temperature of 100° C., and it is not practicable to subject timber to such a heat. The only available means, indeed, are careful protection of the wood from rain and damp and incubation or quarantine of six to twelve months. Such a period is usually sufficient to show the presence of the rot. It is always well to remember, too, so that additional precautions may be taken, that stricken houses are a source of infection to those in the neighbourhood.

The matter of food supply is one of constant interest, and at times, indeed, may become a source of national anxiety. Without trenching on any political question, it may be taken, broadly speaking, that the security with which a nation obtains its food supply is a measure of its prosperity and welfare. With the advance of civilization the business of food production has become more and more a science. As we begin to understand the processes more fully, we depend less on Nature, or rather we put natural resources in harness and direct them to our ends. Modern agriculture is not a simple matter of sowing seeds and gathering ripe corn; it has become a process based on strictly scientific lines, improved by constant observation and guided by the results of careful scientific experiment. Modern cattle-rearing and sheep-farming take cognizance of Mendelism and other biological factors. Modern fishing is not a case merely of a hook and bait or a net, according to circumstances; it involves a very wide knowledge of almost innumerable variable factors, and that knowledge is far beyond the empirical stage. A thorough grasp of the facts afforded by the study of marine biology, and a clear conception of natural modes of life in the sea form the essential factors in successful fishing; but, in addition, there are winds and currents, temperature, nature of the "ground," quality of the water, and efficiency of the vessels and gear all to be reckoned with. Evidently this is too intricate a subject for simple individual fishermen to tackle, and so we find the establishment of large fishing companies controlled by local fishery authorities, and eventually by the Fishery Board. This method has commended itself, not only in this country, but also throughout Europe and in America. At the back of the official board in every case there is the scientific investigation department, consisting of trained observers who have made a speciality of marine biology with particular reference to its bearing on fishes. The vastness and elusiveness of the sea renders a close study of its inhabitants much more difficult than a similar problem on land, and for this reason it is not surprising that on many questions an appeal to scientific knowledge elicits only vague and unsatisfactory answers. Along main lines, however, and in numerous minor details science has exercised a consistently wise and beneficial influence. A fruitful source of inquiry has been the habits, more especially the feeding and breeding habits, of our food-fishes. It has become a matter of common knowledge that each species of fish selects a particular "ground" for feeding on, and another—perchance a great distance off—for breeding purposes. Certain localities have become more or less defined in association with these two habits. Such knowledge affords much valuable information as to when and where to fish with the maximum present gain and future and ultimate profit. Great hauls could be made by depopulating the breeding-grounds, but obviously with disastrous consequences. The various papers which appear on such subjects from time to time make very interesting reading; but unfortunately all of them are not so easy to follow as a recent short note[2] by Dr. Allen, director of the Plymouth Laboratory, who is one of the leading British authorities. It is an attempt to correlate the relative abundance of mackerel off the south-west coast of England with the amount of bright sunshine occurring in these parts during the first quarter of the year. Various fishes have different partialities in regard to their food; some like to feed on their smaller cousins, even their brothers on occasion; others prefer crabs, cockles, or worms—*chaque poisson a son goût*. The staff of life of the mackerel consists of minute swimming crustaceans, called copepods. The latter, in their turn, find means of subsistence in the innumerable microscopic diatoms and other vegetable organisms with which the sea abounds. The greater the number of diatoms, therefore, the fatter and more numerous will the copepods be, and consequently the more mackerel will be attracted to that locality where such a feast of good things is in readiness. Now the factors which favour the production of diatoms are chiefly three—the composition of the sea water, the temperature, and the amount of available light. In the particular locality in which Dr. Allen's observations were made it was found that the first two factors did not enter into account. Attention was directed to the third factor as a result of laboratory experiments which showed the importance of the intensity of light on diatom production. Statistics were accordingly obtained of the amount of bright sunshine occurring in the first quarter of the years 1902–8. Figures for the numbers of mackerel caught in May during the same years were also compiled, and accurate curves of each were plotted. The mackerel curve was found to follow the sunshine curve surprisingly closely. Without jumping at conclusions, we might therefore assume that, in the absence of disturbing circumstances, a bright spring portends a plentiful supply of mackerel. Now that attention has been drawn to the matter, it will be instructive to observe how the theory is borne out by actual experience.

[1] *Ueber den gegenwartigen Stand der Hauschwammforschung* and *Neue Mitteilungen über die Trockenfäule.*

[2] Mackerel and Sunshine, *Journ. Marine Biol. Assoc.*, vol. viii (4), p. 394–406.

DR. FREDERIC HEWITT will, as Emeritus Lecturer on Anaesthetics, deliver a lecture at the London Hospital on Friday, February 25th, at 3 p.m., on the aesthetics of anaesthetics.

THE following examinations of the Medico-Psychological Association of Great Britain and Ireland will take place early in July: The Gaskell Prize examination and the examination for certificate in Psychological Medicine. Essays for the bronze medal of the Association should be in the hands of the Registrar on or before June 14th. For particulars apply to the Registrar, Dr. A. Miller, Hatton Asylum, Warwick.

# England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

## MANCHESTER AND DISTRICT.

### HOPE HOSPITAL.

AT a meeting of the Salford Board of Guardians the question of appointing an eye specialist for the workhouse, the infirmary, and the children's homes was discussed. It has been before the board several times during the past few years, but resolutions for the appointment were always lost. On the present occasion it was objected that it would be better to wait until the new arrangements about the staff, which have been made directly owing to the insistence of the Salford Division of the British Medical Association, had come into operation, so that the board might have the advantage of the opinion of the new medical superintendent. In the end, however, the resolution that an eye specialist be appointed was carried by nine votes to four, and referred to the Finance Committee.

It was announced that the following letter had been received by the clerk from the Assistant Secretary to the Local Government Board.

Whitehall, January 19th, 1910.

Sir,—I am directed by the Local Government Board to advert to your letter of December 24th, informing them of the proposals of the guardians of the Salford Union in regard to the medical staff of the union infirmary at Hope. The Board concur in the view of the guardians that it is expedient a medical superintendent should be appointed, with full control, to devote his whole time to the duties, and they accordingly deem it desirable that the duties of the present visiting medical officer (Mr. E. T. Milner) should cease, and they consent to the determination of his appointment by three months' notice in pursuance of Article 34 of the Order of April 14th, 1891. The Board are willing in the circumstances to approve of the payment of a gratuity of £250 to Mr. Milner, as proposed by the guardians. The Board also approves generally of the proposals of the guardians in regard to the proposed terms of appointment of the medical superintendent and two resident assistant medical officers, and the modification of the steward's duties. They will consider subsequently the question of amendment of the existing regulations.—I am, Sir, your obedient servant,

NOEL T. KERSHAW, Assistant Secretary.

A statement has been published in the newspapers to the effect that the salary of the new medical superintendent is to be £350 a year, rising to £500, with allowance for house in the neighbourhood of the hospital. Such a salary is by no means excessive for a medical man of experience as the medical superintendent should be, but if the status offered and the administrative powers are satisfactory, there will be nothing seriously to object to, and when proper assurances on these points are obtained, the warning notice may be withdrawn. The Salford Division has made two applications to the guardians for information as to the terms and conditions of the appointment, but the reply is simply that "the guardians have no observations to make"; in other words, they bluntly refuse to give the medical profession any information. That being so, the Salford Division seems to have no alternative save to continue the warning notice until some authoritative information is obtained directly or indirectly, for it is impossible for the profession to accept press rumours as sufficient guarantee of what the guardians propose to do some time in the future.

It appears that the guardians are proposing to treat the present visiting medical officer very badly. Owing to the new arrangements he will receive three months' notice of the determination of his present appointment, and, considering that there are no complaints in any shape or form against him, and that he is to lose his present salary of £250 solely because the guardians have been compelled to reform their own administration, the offer of £250 as compensation is shabby in the extreme. As he is a surgeon well known in the district, it had been expected that he would be retained, possibly at a smaller salary, to go, when required, for operations; but apparently it is expected that the new medical superintendent shall be both physician and operating surgeon. In any case, the way in which the guardians propose to treat him shows the absolute necessity for caution in seeing that the terms and conditions of the appointment of the new superintendent and his assistants are strictly set forth and properly defined.

### APPOINTMENT OF WOMEN TO RESIDENT POSTS AT THE INFIRMARY.

At a meeting of Convocation of the Manchester University, presided over by Professor Wild, an important debate took place on the question of the appointment of medical women to resident posts at the Royal Infirmary. The Chairman pointed out that the decision of the question lay entirely with the Infirmary Board, and Convocation could do nothing but make recommendations. Mr. A. E. Steinthal then moved the following resolution:

> That, having regard to the interests of the women students in the Faculty of Medicine, Convocation desires to suggest to the University Court that they should ask the Royal Infirmary Board to reconsider the question of appointing women to resident posts at the Royal Infirmary.

Mr. Steinthal said that he fully recognized the right of the infirmary to determine the matter, and asked only that the University Court should bring its influence to bear on the Infirmary Board to reconsider its recent decision. It had always been one of the principles at the university that there should be no distinction between men and women in the facilities for completing their study, and the university was doing nothing unreasonable in asking that the same principle should be carried out at the infirmary. No one could believe that the want of accommodation was the real ground for the refusal to appoint women. Dr. Catherine Chisholme, in seconding the resolution, said the posts in question were really the completing of the university training, and Convocation had some legitimate ground for urging the university to use all the pressure it could with the Infirmary Board to give perfect equality of opportunity to both men and women. Dr. George Ashton wished to move an amendment:

> That it is not in the best interests of the infirmary that lady students should be admitted to the resident posts.

This, however, was ruled out of order, and he proceeded to speak against the resolution. He said the university syllabus stated that women would be admitted to the infirmary posts, but the university had put this in without the consent of the infirmary, and the board had taken exception to the statement. He thought the sphere of women was among women and children, and there was plenty of scope for women doctors at other hospitals in Manchester. Mr. E. J. Broadfield understood that the Infirmary Board intended to consult the trustees on the matter, thus showing that it was open to conviction, and there would be no discourtesy in the university asking the board to reconsider its decision. A very animated debate followed, in which Dr. Moore of Huddersfield, Dr. Brown of Bacup, Dr. Schuster, Dr. Edge, Professor Weiss, Mrs. Tout, and others took part. The resolution was then put to the meeting and declared carried by 34 votes to 5.

### ENDOWMENT OF A CANCER BED AT THE INFIRMARY.

At a meeting of the Board of Management of the Manchester Royal Infirmary a letter was read from Mr. G. Spiegelberg, of Bowdon, offering a donation of £1,000 for the endowment of a bed for male cancer patients at the infirmary. It is to be known as the "Edward and Antonia Spiegelberg Bed," in memory of the donor's parents. A condition made by the donor was that the bed must be available for any male patient suffering from cancer irrespective of nationality or creed. The board accepted the offer, and passed a vote of thanks to the donor.

## LONDON.

### TREATMENT OF SCHOOL CHILDREN.

AT the meeting of the Education Committee of the London County Council on February 2nd, the Day Schools Subcommittee reported the receipt of a letter from the Board of Education approving, for a period of twelve months, the arrangements adopted by the Council on November 30th, 1909 (BRITISH MEDICAL JOURNAL, p. 1644), for the medical treatment of school children at thirteen hospitals. In consenting to the scheme the Board stated that it was to be understood that the arrangement must be regarded as experimental, and that they would subject its working to careful scrutiny. During the next twelve months the Board would take measures to ascertain how far the proposals embodied, or might be regarded as leading up to, a scheme for attending to the health and physical condition of the school children which would be effective, adequate, and economical; and that it must be a condition of its approval that the Council would itself reconsider the whole situation at or towards the end of the experimental period, and would furnish the Board with a report upon the general working of the scheme in its administrative, educational, and medical aspects.

The subcommittee also reported the result of negotiations which had taken place for the treatment of children not included in the arrangements adopted last November. Since then the Central London Ophthalmic Hospital and the Victoria Hospital for Children, which had undertaken to provide treatment free of charge, had stated that they now desired financial aid. The effect of these withdrawals from the list of free hospitals was that the number of children for whom further provision must be made on a financial basis was increased from about 5,000 to about 10,000. The subcommittee recommended that agreements be entered into with the following hospitals:

1. The Hospital for Sick Children, Great Ormond Street, W.C. (400 eye and 440 ear cases a year).
2. The Royal Eye Hospital, St. George's Circus, S.E. (2,000 eye cases a year).
3. St. Mary's Hospital, Paddington (750 eye and 500 ear cases a year).
4. The Victoria Hospital for Children, Tite Street, Chelsea (440 eye and 260 ear cases a year).

The terms were generally in accordance with those previously approved, consisting of a payment of £50 a year for each clinical assistant working one half-day a week, and a capitation grant of 2s. Grants for apparatus were also included for the Royal Eye Hospital and St. Mary's Hospital, Paddington, the stipulation being made that the apparatus remained the property of the Council. The authorities of the Royal Eye Hospital proposed to provide increased accommodation by establishing a special department for school children, and had asked for a grant towards the capital expenditure. This had been refused. The proposals would secure treatment for approximately 5,000 children, leaving 5,000 children still outside the scheme. Steps were already being taken towards making this provision, and the subcommittee promised a further report. It was also considering the steps to be taken in respect of the outlying districts of the country, which were inconveniently situated in respect to hospitals. There also remained the question of the permanent provision to be made at Hampstead, when the experiment now being carried out by the local Council of Social Welfare was completed. It had been necessary to amend slightly the arrangements made on November 30th, 1909, with King's College Hospital. It was understood that 500 ear and throat cases would be treated in one department, but the hospital authorities wrote that they were being dealt with in separate departments, and that consequently additional staff would be required. In the circumstances it had been decided to send only aural cases to this hospital, the grant remaining the same. The proposals now made would cost £1,350 a year, and would come into operation on April 1st, 1910.

It was decided to continue for another three months the arrangements with the Queen Victoria Jubilee Institute of Nurses for the treatment of children in two districts who were suffering from suppurating ears (BRITISH MEDICAL JOURNAL, February 13th, 1909, p. 426). The scheme was put into operation in Hackney, Shoreditch, and Bethnal Green on October 1st, 1909, and it was felt that three months was not long enough for its merits to be ascertained.

### THE MEDICAL STAFF OF THE EDUCATION DEPARTMENT.

With regard to the proposal which came before the Education Committee of the London County Council recently to appoint an assistant medical officer in the Education Department at a salary of £700 a year (BRITISH MEDICAL JOURNAL, December 11th, 1909, p. 1712), a further report was considered by the Committee on February 2nd. It was decided to dispense with one of the present quarter-time posts, remunerated at £150 a year, and to appoint the holder, Mr. F. C. Shrubsall, M.A., M.D., M.R.C.P., D.P.H., to the new office at a commencing salary of £500, rising by annual increments of £50 to the maximum. The General Purposes Subcommittee stated that, in addition to carrying out his present duties, Dr. Shrubsall would carry out other duties allocated to the medical officer (education), for which about £75 would otherwise be paid, and also continue certain examination work for which he has been paid £115 a year. The new post would, therefore, involve an additional expenditure of only £340 a year.

### ANNUAL REPORT ON SCHOOL CHILDREN.

*(Continued from page 289.)*

#### *Notifiable Infectious Diseases.*

Dr. Kerr observes that the only notifiable infectious diseases which to any material extent affect school children are scarlet fever and diphtheria.

With regard to scarlet fever, he says that its spread in schools appears to be through close personal contact with: (1) A previously known case either in its early or later stages; (2) a mild unrecognized case, not excluded from school; (3) an apparently simple sore throat, without other symptoms; and (4) rarely a carrier case not suffering. Experience so far obtained goes to prove that the peeling stage is of little importance as regards infectivity, and further that a high proportion of people escape the disease. Closure of a school or department for scarlet fever as now met with may, he thinks, be relegated to the list of crude and unscientific measures, although closure of one or two classrooms may occasionally be resorted to when school visitation and investigation is not possible.

With regard to diphtheria, Dr. Kerr observes that from the school point of view the greatest danger of spread arises from mild undetected cases, and he believes that the regulation by which all sore throats are notified to the medical officer of health by teachers when diphtheria is prevalent in the district, and admission refused until a certificate of freedom from infection based upon bacteriological examination is produced, is likely to be of the utmost value where local arrangements exist for bacteriological diagnosis. Such arrangements have not been made in many of the London boroughs, and Dr. Kerr adds that unless facilities exist for the detection of mild carrier cases, preventive measures are largely wasted.

#### *Non-notifiable Diseases.*

The principal non-notifiable infectious diseases which have been found to affect school children are measles, mumps, whooping-cough, chicken-pox, ringworm, ophthalmia, and scabies, but, with the exception of measles and whooping-cough, they are not dangerous to life, although they may seriously affect attendance at school.

Among these diseases measles claims the heaviest death-rate, due largely to ignorance on the part of parents. The special inquiry proposed by Dr. Kerr to the School Board for London has now been conducted for five years in Woolwich by Dr. C. J. Thomas, in co-operation with Dr. Davies, medical officer of health. It has yielded much valuable information, and in Dr. Kerr's opinion has revolutionized ideas as to the distribution and methods of treating measles

outbreaks in schools. The principles deduced from this inquiry have now been applied in all the infants' departments in the metropolitan area, and have been recommended generally by the Local Government Board. The procedure is as follows:

The infants' head teacher makes inquiry as to the measles history of each scholar on the roll, and of every child newly admitted to the department. If a child has already had measles, this is recorded in the attendance register by the letter M; if a child is not known to have suffered, this is noted by the letter O. Should a child with a negative measles history contract the disease before leaving the infants' department, a suitable alteration is made in the register. The record thus established serves to show at any time the proportion of children protected by previous attack to those who are unprotected and liable to attack when exposed to infection, and it is upon this knowledge that any action is based. Immediately a case of measles occurs in the department, a copy of the following on a dark red card is distributed to each of the unprotected children in the classroom in which the patient was attending:

OBVERSE.

(M.O.19 A.) LONDON COUNTY COUNCIL.

*Notice to* The Parent or Guardian of ——— *From* The Head Teacher (Infants' Dept.) ——— *School.*

As a case of measles has occurred among the scholars in the class which your child attends, it is possible that———may have contracted the disease. As it requires about twelve days for measles to develop after infection, you are requested to pay particular regard to the state of your child's health, during the NEXT THREE WEEKS, and upon the slightest sign of illness to abstain from sending———to school.

*Date*——— ———

*Signature.*

REVERSE.

NOTE.

Measles may be a very serious illness in young children, and many die from it. The early symptoms are those of a cold, which may be at first slight; there is generally running at the eyes and nose, sneezing and possibly cough. Many children lose their lives because parents allow them to go out of the house, thinking that the indisposition is only a slight cold, when it is really measles.

The measles returns from all schools are reviewed daily at the Head Office, and when it is considered that closure of a classroom will tend to check the spread of the disease, instructions are given to the head teacher, who sends the children home after giving each a light green card informing the parent that the classroom has been closed, and warning them to keep the child, should it show any signs of the disease, from contact with other children, or exposure in public places for a fortnight, and adding that a child who appears only to have a slight cold may have contracted measles and be dangerous to others. A child who has contracted measles is not allowed to resume school attendance for a month. Dr. Kerr states that an apprehension was expressed by some teachers that the red cards might throw parents into a state of panic, but these apprehensions do not appear to have been justified. He adds:

The increase in frank confidence between school authorities and parents can only tend to greater trustfulness ultimately. The parent has a right to know if his child has been exposed to the risk of contagion, and we would fail in our duty if this information were suppressed through the indirect action of the Board of Education's regulations in the supposed interest of school attendance.

*Vision.*

During the period under consideration, from April 1st, 1907, to December 31st, 1908, vision testing was carried on in the usual manner with Snellen's test types by the teachers, who recorded the vision in the attendance registers. All children who do not attain $\frac{6}{18}$, or, above Standard V, $\frac{6}{12}$, are put upon a list which is forwarded to the Head Office. These children are reviewed later by the medical officer, and green cards of warning or red cards in more urgent cases are forwarded to the parents.

The following tables give a summary of the results obtained:

| | April 1st, 1907, to March 31st, 1908. | | April 1st to December 31st, 1908. | |
|---|---|---|---|---|
| | Numbers. | Percentages. | Numbers. | Percentages. |
| Number of children on registers | 473,145 | 100.00 | 313,415 | 100.00 |
| Returned as defective by the teachers | 50,854 | 10.75 | 29,326 | 9.36 |
| Returned as defective by the oculists | 35,142 | 7.43 | 20,584 | 6.58 |
| Green advice cards given | 21,201 | 4.48 | 13,331 | 4.25 |
| Red advice cards given | 8,303 | 1.75 | 3,983 | 1.27 |
| Total cards ... ... | 29,509 | 6.24 | 17,314 | 5.52 |

A special school at Boundary Lane has been opened for cases of high myopia, and it will be used to educate these children in such a way that their eyes may be spared during the period of growth.

An experimental school clinic on a small scale is being privately worked at Bow. Dr. Hugh Thompson has been conducting an ophthalmic clinic for school children in Woolwich since May, 1907. The organizing work is done by the ladies of the Invalid Children's Aid Association, and on its premises the children selected by them are seen during two and a half or three hours once a week. Dr. Thompson has treated 456 children; of these, 316 were refraction cases. An optician attended to provide the spectacles ordered at prices ranging from 2s. to 4s.

In London, on account of the magnitude of the work, it has been almost impossible to go beyond the determination of proportions of children at different ages with defective visual acuity. The general ideas of ophthalmic surgeons as to the effect of school work upon the eyes are mainly based upon Continental research. It has been suggested that hypermetropic astigmatism tends to develop into myopia; if this be so, every attempt should be made to save these eyes by ordering the correcting glasses at an early date.

Mr. Bishop Harman has analysed the results of his examination of school children seen at the Middlesex and Belgrave Hospitals. The results are not identical, and the difference is referred in the report to the different class of patient seen at the two hospitals. Far more aliens and a poorer class of patient are seen at the Middlesex Hospital than at the Belgrave Children's Hospital. The figures accord with those usually found by such a method of analysis.

One of Mr. Bishop Harman's graphs is included; it shows that, as far as his records are concerned, the incidence of myopia increases from the age of 6 to 12, from 5 cases among 618, to 46. Hypermetropia gives approximately a level line, whereas hypermetropic astigmatism gives a curve which rises up to 8 years of age, remains level to 11, and falls rapidly between 11 and 13. Hypermetropia is the usual condition found in young children, whereas myopia only occurs in 3 per cent. of the children examined.

THE PREVENTION OF GLANDERS.

The Public Control Committee reported to the London County Council on February 1st upon the administration of the Glanders or Farcy Order of 1907. During the period from January 1st, 1908, to November 30th, 1909, the Council paid as compensation to horse owners nearly £33,000, but the estimate for 1910–11 contained provision for the expenditure of only £12,000, some diminution in the disease being apparent. The prevalence of the disease in some large studs had exceeded the committee's expectations, but there was likely to be a reduction in the expenditure in the future as the number of centres of infection had been reduced. The two most serious difficulties with which the Council had had to contend in connexion with the extirpation of glanders had

been the very large number of latent cases of the disease in some studs and the recurrence of disease in a few. Experience proved that the spread of glanders had been largely due to the failure of horse owners to take adequate measures for the protection of their horses, and the neglect of the most important precaution urged upon them by the Council—namely, the use of mallein in all newly purchased animals. The neglect of the latter precaution had led to the introduction of glanders where it had not previously existed, and to its reintroduction after considerable expense had been incurred in stamping it out. To ensure the complete extermination of glanders the committee felt that additional powers were necessary: (1) to destroy all suspected nosebags, which were difficult to disinfect; and (2) to reinspect a stud without waiting for the disease to reappear. It was seldom that one test with mallein detected every case of disease in a large stud. A local authority should be empowered to test the stud again after a period of from one month to six weeks, as was already done in some cases with the concurrence of owners. The work under the Order would be greatly facilitated if proprietors of horse repositories were required to disclose to local authorities the name and address of the vendor of any horse subsequently found to be suffering from glanders. The local authority should be able to exercise control over a horse as long as it gave a doubtful reaction, or for a maximum period of three months, instead of twelve days as at present. The committee recommended that the Board of Agriculture be asked to amend the Order in accordance with these suggestions. The recommendation of the committee was approved.

## WALES.

### Medical Inspection of Schools.

A conference recently took place between the chief medical officer of the Board of Education and representatives of the Education Committees for Breconshire and Radnorshire. The chief medical officer impressed on the conference the importance and necessity of (1) nominating one of their present medical officers at once to be the school medical officer for the current code year, (2) examining all scholars entering and leaving the schools during the current school year, (3) co-operation between the school medical officer and medical officers of health in the county, (4) the re-examination at intervals of defective children. The Breconshire Committee consequently made certain recommendations to the County Council, which have been adopted; it has been arranged that Dr. T. P. Thomas, of Brecon, should act as school medical officer for the current code year, and he has agreed to allow the question of his remuneration to be in abeyance until the committee has fuller information as to the extent of his duties. It appears that when some time ago the committee was arranging for the appointment of school medical officers of the various districts, the doctors in the Builth and Vaynor districts declined the terms offered, which, we understand, were £1 per annum for the inspection of each school at least twice a year. It appears that in one part of the district a visit to the school would have entailed a journey of eleven miles, and in another of twenty-five miles each way. Further representations were made by the committee to the medical men in the district, who, having taken into consideration the bad roads and hills in the district, have agreed to a rate of 2s. 6d. a mile one way, and 3s. 6d. for each child examined. It appears that these terms have been accepted by the committee, and that Dr. W. Black Jones of Llangammarch and Dr. W. W. B. Fry of Builth Wells have been appointed medical officers for the upper and lower Builth districts respectively until July 31st next. In two other districts it appears that the services of medical men have been obtained on different terms; in one case at the rate of 1s. a child examined and in the other reimbursement of bare travelling expenses, and some small sum for time. It would appear to be a matter for regret that the medical men in the county have not acted fully together in this matter, and unanimously insisted on vindicating the principle that medical men should claim adequate remuneration for services rendered to the State.

## Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

### Retirement of Dr. Peter McBride.

Dr. Peter McBride, well known as a leading Scottish specialist on diseases of the ear and throat, was entertained to dinner on the evening of January 28th by his old clinical assistants in the Edinburgh Royal Infirmary, his retirement from professional work being deemed a fitting occasion whereon to do him honour, and to commemorate his long and distinguished services. The dinner took place in the Caledonian Hotel, Edinburgh, and the Chairman was Dr. R. H. Blaikie, Dr. McBride's first clinical assistant in the infirmary. Dr. Blaikie was supported by twenty other gentlemen who had held the same appointment in later years, and apologies for absence were received from many others throughout the country.

The Chairman proposed Dr. McBride's health in a felicitous speech. Having sketched the rise and development of the ear and throat department, and referred to the great changes which had taken place as regards the premises required for patients, he went on to speak of the speciality itself, and of the part which Dr. McBride had taken in its advancement. He referred, also, to the very high position now occupied by Dr. McBride in the profession, and spoke of the esteem in which he was held by his compeers, as evidenced by the many honourable positions to which they had elected him. He further drew attention to the fact that, in spite of a busy and active professional life, Dr. McBride had found time to engage in various outdoor sports; and that, in addition to fishing, shooting, and curling, he had for many years been a familiar figure in the hunting field, attending regularly the meets of the Linlithgow and Stirlingshire Hunt. Dr. Blaikie mentioned, also, the loyalty which Dr. McBride had always won from his assistants; and this, he said, was due, not only to the esteem in which they held him as a man of exceptional learning and ability, but also to his invariable kindness and courtesy, and to the charm of his personality. Dr. McBride would carry with him on his retirement the most cordial wishes alike of his old assistants and of his many friends within and without the profession, and it was hoped he would long be spared to enjoy the leisure he had so deservedly won.

Later in the evening the Chairman presented Dr. McBride with an album containing the photographs of most of his old assistants, on which was inscribed: "To Peter McBride, Esq., M.D., F.R.C.P.E., from his former clinical assistants in the Royal Infirmary, Edinburgh, on the occasion of his retirement from professional work. January, 1910."

In his reply Dr. McBride dwelt on the great cordiality which had always existed between himself and his assistants. This was largely due, he asserted, to the loyal way in which they had served him, and to the free and willing fashion in which they had given their time to the work of the department. In the early days of the speciality his knowledge had to be gained from the writings of foreign authors, and, throughout many years, much of his time was perforce given to such study. Having next sketched the position of the speciality when he first began to practise, he spoke of the difficulties he had encountered in persuading the profession to realize the necessity of studying ear diseases, and he recounted several anecdotes—connected with his early years—which illustrated the very extraordinary notions some of his medical friends formerly held regarding his work and position. In conclusion, Dr. McBride said that nothing could have

gratified him more than to be received and entertained so kindly by those with whom he had worked.

Dr. McKenzie Johnston, after proposing the health of the Chairman and of the Croupier, Dr. Logan Turner, said he could not help referring to the cordial relations which had long existed between himself and Dr. McBride, and to the very kind way in which the latter had always treated him during the twelve years in which he (Dr. McKenzie Johnston) had acted as his assistant surgeon. After Dr. Blaikie and Dr. Turner had replied, several songs were rendered. Finally "Auld Lang Syne" was sung, and a very pleasant and enjoyable evening was brought to a close.

### INFIRMARY AMALGAMATION IN GLASGOW.

At the annual meeting of the Glasgow Royal Infirmary the Lord Provost, who presided, again referred to the question of the amalgamation of the Glasgow infirmaries, and said that in the future attention must be directed to the problem of how the annual decrease in the subscriptions to hospitals could be arrested. The question of co-ordination and consolidation of effort should be seriously considered. It was notorious that in philanthropic and charitable endeavour overlapping and interlacing of work took place, and more than one institution was found doing the same work with the same class of cases. The three great infirmaries were doing splendid work, providing for the same class of patients and with no substantial difference in their method of administration. It might be worth while for the respective governing bodies to consider the subject of amalgamation, as it was not impossible that an economy might thus be effected, and he did not believe that the total contributions would suffer. His official experience had strongly impressed him with the necessity for something being done to prevent the dissipation of effort and overlapping of work. The Royal Infirmary was one of the most ancient institutions, and had rendered incalculable service to the community. He regretted that ordinary expenditure had exceeded the ordinary revenue during the past year by £13,640, though the admissions were 118 fewer than in the previous year.

### GLASGOW ROYAL HOSPITAL FOR SICK CHILDREN.

Sir John Ure Primrose, who presided at the twenty-seventh annual meeting of this institution, stated that the subject of the site and equipment at the new building had been carefully considered by the directors, who had obtained expert advice and visited a large number of kindred institutions. The building fund was now £94,000, but £26,000 was still required. The new site, although within the city boundary, was on a commanding height where the hospital wards could secure all the sunshine available; it was central, with radiating lines of communication to all districts; and it was near the university, so that the value of the hospital as a school for the study of children's ailments would be considerably enhanced. It would virtually become a part of the medical school.

The plans for the new building were prepared by Mr. J. J. Burnet, architect, with the expert advice of Dr. D. J. Mackintosh, after seeing the most recent children's hospitals in Germany and in the United States. Building operations will be begun in the spring, and plans provided for the erection of a 300-cot hospital on a site extending to 10 acres. It will be on the pavilion system, each block being connected with the others by a single well-ventilated passage. Provision for 200 beds is at present being made, but the blocks can be increased in number as required without disturbing the work of the hospital. Most of the blocks will be two stories in height. The patients treated last year in hospital numbered 1,012, and the out-patient attendances 51,594.

### HEREDITY AND ENVIRONMENT.

Dr. J. Wishart Kerr, in a recent lecture on the importance of heredity and environment before the Glasgow Health Culture Society, said that it had been proved that heredity played an important part in the transmission of physical defects and moral perversions. In the present state of public opinion it was too much to expect the establishment of a lethal chamber for the regular elimination of the unfit, but drastic measures should be taken to prevent their propagation. The average number of children in families which used the public elementary schools was about four, whereas in the degenerate families whose children were handed over to the special schools the average number was seven. The remedies he suggested were absolute intramural care of all deaf-mutes, mental cases and epileptics; the demand by parents of a certificate of life assurance from prospective sons-in-law, and a concentrated effort on the part of the public to prevent further deterioration of the race by a policy of wide streets and artisan cottages in new districts, the demolition of existing slums and insanitary areas, the abolition of overcrowding, and the inculcation of temperance principles in the young.

### THE EDINBURGH AND LEITH MEDICAL PRACTITIONERS' ASSOCIATION.

At a meeting of this association on January 15th the adjourned discussion of the proposal to establish a nursing home for private patients at the lowest possible rates was continued. About fifty members were present, and many took part in the debate. A plebiscite of the members had been taken on the following points: (1) The advisability of starting in Edinburgh a staffed gynaecological hospital. (2) The desirability of having a private non-staffed nursing home for patients paying 10s. and upwards. The plebiscite showed a large majority in favour of a private non-staffed nursing home and against a staffed gynaecological hospital.

### STREET ACCIDENTS IN GLASGOW.

In consequence of the action taken by the Glasgow and West of Scotland Branch of the British Medical Association (SUPPLEMENT, BRITISH MEDICAL JOURNAL, July 3rd, 1909, page 13), and as a result of a deputation of the Branch, which had a conference with the Glasgow Corporation on the question of the fees payable to medical men when summoned to street accidents, an arrangement has been arrived at. Much dissatisfaction was occasioned not infrequently among medical practitioners at the refusal of the Corporation to pay more than 2s. 6d. even in serious cases. Under the new arrangement a regulation fee of 5s. will be paid to any practitioner summoned by the police, and a method has been devised for noting all cases and having them duly vouched for in the proper quarter. A circular intimating the new agreement arrived at has been sent to the practitioners in the city and district by the Honorary Secretary of the Branch.

## Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

### BOARDING-OUT CHILDREN AT A SHILLING A WEEK.

IN our review of the report of the Irish Local Government Board for the year ending last March [1] the fear was expressed that the lady inspectors of boarded-out children were becoming disheartened, and we have since noticed that guardians in some of the Irish unions are not quite satisfied with the way these waifs are treated.

At a recent meeting of the Cavan Board a guardian broached the subject of the treatment of some of the boarded-out children in that union. He strongly condemned the way in which some of the boarded-out children were treated, and said that no guardian should have anything to do with the boarding out of children unless he were a guardian of the division in which the applicant resided, and were made responsible for the care of the child. He asserted that some of them were treated like slaves, and asked who looked after them. The relieving officer said that he did, and that a lady inspector came once a year, adding that it was

[1] BRITISH MEDICAL JOURNAL, October 2nd, 1909, p. 1003

very hard to expect foster parents to keep the children on what they were getting; in a neighbouring union when the relieving officer reported that the children wanted warm clothing it was ordered at once, but in Cavan the guardians would not give any clothing, and it was unreasonable to expect foster parents to do all for 4s. or 5s. a month, as the children could do very little work if they were kept at school. The Chairman said that if the children were well treated it was better to send them out of the workhouse, and the matter was eventually allowed to drop. In the review above referred to, it was stated that the average cost of boarded-out children for all Ireland was £7 a head a year, but it appears that in Cavan Union twenty-one children have been boarded out at a cost of £55, or £2 12s. 4½d. a child a year, while the adjoining Union of Cootehill paid £64 for the maintenance of thirteen children, or £4 18s. 5d. a child a year. The class of people who take these children are small farmers and cottiers, and they do not usually take them merely from philanthropic motives. The Local Government Board insists that they shall be sent regularly to school, so that the profitable work to be got from them is small—smaller than from the foster parents' own children, who in many cases are not sent regularly to school. The advantages of the boarding-out system for children of the workhouse class are incalculable when it is properly administered, but it can hardly be said that a payment of a shilling a week is likely to conduce to good results.

FORSTER GREEN HOSPITAL FOR CONSUMPTION, BELFAST.

The fourteenth annual meeting of this institution was held in Belfast on January 27th. Mr. Herbert Ewart presided. The total number of patients admitted during the year was 231, of whom 76 were discharged with the disease apparently arrested; 103 were improved; 13 showed no improvement; no patient whose stay in hospital was less than two weeks is included in these statistics. The average number under treatment throughout the year was 70.77, of whom 32.56 were on the old foundation and 38.21 were nominated by the City Council. In the out-patient department there were 725 new cases. The medical staff drew serious attention to the overcrowding and general inadequacy of the present out-patient dispensary; the patients had often to sit on the stairs, and the work of examination was handicapped.

# Special Correspondence.

## PARIS.

*The Flood in Paris.*

THE rapid and continued rise of the Seine reached its maximum on the night of January 28th, when the scale at the Pont d'Austerlitz registered nearly 29 ft. above normal level; the scale at the Pont Royal had been by this time submerged for a long time. It is estimated that more than 100,000 inhabitants are homeless, and the number out of work will reach nearly twice that number.

Large areas of the city at a distance from the river are under water, due to the flooding of incompleted subterranean works for the metropolitan railway, which will pass under the river near the Pont de la Concorde, and also due to bursting of flooded sewers which carry off surface road drainage and slop waters from the houses to the river.

The hospital principally affected by the rising waters was the Hôpital Boucicaut. From the time the director became alarmed at the encroach of the water and telephoned to M. Lépine, the prefect of police, it only took a little over two hours to empty the hospital. Firemen carried the 400 patients, many of whom were dying, in blankets to waiting motor cars, and they were distributed between the Necker, Laënnec, and Cochin hospitals.

The Hertford British Hospital at Levallois Perret, to the north-west of Paris, has not escaped. Water began to invade the cellars and court on January 28th, and it has only been possible by continuous pumping day and night to prevent the water reaching the heating apparatus. The hospital is deprived of the telephone, gas, and drinking water. The Mayor of Levallois has given directions for a street-watering cart full of drinking water to be sent to the hospital each morning. For the last four days it has been impossible to heat water for the baths. All the water used has to be boiled in the ward kitchens, and there is a prospect of coal becoming scarce.

The permanent committee of the Conseil Supérieur d'Hygiène has been sitting under the chairmanship of Dr. Roux, of the Pasteur Institute, and has drawn up the following scheme of hygienic measures to be carried out by the public authorities and private individuals to prevent any epidemic after the waters subside.

*Instructions for the General Public.*

In districts which have been flooded, or which receive their water supply from flooded regions, the water having been contaminated with sewage, is highly dangerous, and will remain so for a lengthy period.

To prevent grave epidemics, notably typhoid fever, it is indispensable only to use water (whether from springs, the river, wells, cisterns, public fountains, etc.) for drinking, preparation of food, and even for personal ablutions, which has been *boiled*.

Vegetables also have been soiled by the water, and people are expressly advised not to eat them raw.

*Instructions for Persons whose Houses have been Inundated.*

It is dangerous to re-enter a house which has been inundated without having previously cleansed it in the following manner:

1. Clear the house and its annexes of all mud and filth deposited by the water. To facilitate the removal of mud deposited in large quantities on the ground, plaster or chalk may be spread to dry it.
2. The heaps formed by the mud removed must be disinfected by mixing with quicklime (5 kilograms of lime to the cubic metre). Be careful not to deposit these heaps near any wells.
3. After removal of the mud the floors of the dwellings must be disinfected (when of beaten earth with milk of lime, all parquet floors with water).
4. The walls of the houses must be scraped and washed with lime.
5. Soiled mattresses must be burnt. All other bedding must be cleaned and disinfected as far as possible.
6. The aëration and ventilation of the rooms will thus be the best method to dry the dwellings and render them healthy. The most efficacious method of drying is to keep a large fire burning with the windows and doors open.

The bodies of drowned animals should be buried without delay at a good depth, covered with lime.

Dépôts for the distribution of disinfectants are to be established in the different quarters affected.

## BERLIN.

*Work of School Doctors.—Tuberculosis in Prussia.—Administration of Medicine by Doctors.—The Berlin Ambulance Society.*

DR. PAUL MEYER'S annual report of the work done by Berlin school doctors contains some instructive figures. The number of doctors was 44, and they were responsible for 265 municipal schools. Of what are called "school recruits," 9.45 per cent. had to be kept back from school, the most frequent reasons being anaemia, rickets, and mental debility. Almost 25 per cent. of the children remained under medical supervision; 456 were transferred to special classes for mentally defective children; 25 were removed to the home for idiots. Only 0.7 per cent. were found suffering from actual consumption, and it is stated that in the great majority of cases the disease breaks out after the close of school life; 25 per cent. showed some form of spinal curvature. One doctor found 10 per cent. of nail-biters. Many improvements were effected in ventilation and hygienic arrangements generally. The work of the newly established school dental clinics cannot be reported on for another year. The municipality spent 83,580 marks (£4,179) on mid-day meals for the poorest children during the winter months (835,823 meals); 100,000 marks (£5,000) have now been voted, in order that these free dinners may be continued during the late spring, the summer, and the early autumn months. A Berlin philanthropist, Herr Mosse, contributes a sum sufficient to provide those children who come to school unbreakfasted with milk and read. Swimming lessons were given gratis to 2,173 children; 100,000 tickets for river baths and 118,000 tickets

for public bathing establishments (these latter at half price) were distributed. The school shower baths were largely made use of, new skating grounds were acquired, and large country playgrounds put at the disposal of the children during the summer holidays. There can be no doubt that the school doctors have warmed to their work, and that they are gradually gaining the confidence of both parents and teachers. Personal meetings between doctors and parents have undoubtedly had a good influence, and parents now frequently consult the school doctor as to the kind of work a child may be best fitted for when it starts to make a living.

In a paper read before the Berlin Society for Medical Statistics, Hygiene, and Social Medicine at its last meeting, Professor Kayserling gave a careful and most detailed analysis of the spread and virulence of tuberculosis in Prussia, and proposed a number of very definite and by no means Utopian public measures for combating it. Of all places in the Prussian monarchy, Berlin has the highest percentage of deaths from tuberculosis, and this is no wonder, for it is the most thickly populated place with 32,197 inhabitants to the square kilometre. Since 1903 the Berlin Municipal Board of Statistics has kept a record of the number of individuals living in the same room as a tuberculous person up to that person's death. About half the number of tuberculous patients in Berlin die in hospital, the other half in their homes, and of these latter no less than 81 per cent. lived in one or two-roomed homes. These cramped habitations, therefore, are the most dangerous tuberculosis foci, and the children living in them are in constant danger of infection. Moreover, this danger is far more extensive, numerically speaking, than the above figures show, for the average number of days spent in hospital by tuberculous patients in Berlin is only 45, whereas the period during which such a patient is liable to infect others must be calculated at no less than 600 days on the average. Therefore, the greatest efforts should be made to protect children of such patients from infection (such as open-air schools, open-air homes, efficient disinfection gratis, a comfortable home-hospital with about 750 beds for advanced stages, etc.).

The Berlin-Brandenburg Aerztekammer (representative body of medical men) has taken up the case of a doctor who had been committed to prison for having himself given a small quantity of medicine to a patient who appeared to him urgently in need of it. Their appeal to the Prussian Cultus Minister for alteration of the existing law so as to give doctors more latitude in such matters has been answered by a promise—slightly conditional, it is true—that their request will shortly be acceded to.

The Berlin Ambulance Society has gradually developed into a thoroughly useful institution. Its numerous stations, distributed all over the city, are fitted with excellent appliances for first aid and for transport, and the readiness and efficiency of the workers have stood so many tests, that the population have learnt to depend on the organization as a thing that will keep its place. The society now numbers 1,117 members, 350 of whom are active workers. During last year (1909) 13,660 persons applied for aid, and in more than 11,000 cases this aid was given in the stations. About 10,000 cases were accidents, 1,530 internal complaints, 140 obstetrical cases, and 114 poisoning cases. About 3,000 of the applicants were without means; 7,000 were members of sick clubs. In round figures, 26,000 marks (£1,300) were paid in fees; the Berlin municipality contributed 58,000 marks (£2,900); the remainder of the year's expenses, about £4,000, was raised by voluntary subscriptions.

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IT is announced that Dr. Rhodain will be the head of the Belgian Sleeping Sickness Mission to the Congo. The Mission proposes to make its centre of work the Kalengwe Falls, in the neighbourhood of which the disease is very prevalent.

THE American Far Eastern Section of Tropical Medicine will hold its first biennial meeting in Manila, March 5th to 14th, 1910. The association was established for the purpose of bringing together workers in tropical medicine in the Philippine Islands, so as to give them an opportunity for the exchange of ideas and foster the spirit of scientific investigation. Among the subjects to be dealt with are questions relating to protozoology, helminthology, cholera, plague, leprosy, tropical fevers, and beri-beri.

# Correspondence.

## APPENDIX DYSPEPSIA.

SIR,—I think that one result of Mr. Moynihan's paper will be that many "dyspeptic" people will undergo operations for the removal of the appendix, and that the great majority of them will be none the better.

Let it be admitted at once that flatulent distension, with so-called indigestion and aching and discomfort in the caecal region, occur with great frequency in people who have chronic constipation and a dilated caecum, and that in many of these patients there are to be found perityphilitic adhesions and thickening of the appendix. Such cases are seen by every surgeon in these days, and few of them are as much benefited by operation alone as by suitable habits, diet, and aperients.

But Mr. Moynihan's description of "appendix dyspepsia" is at once so vague and so inclusive that there are few people with flatulent dyspepsia, from whatever cause arising, who would not be included in it. Thus, in one patient the pain occurs directly after food; in another an hour or two after; in another it is quite independent of food. So that all patients with dyspeptic pain are in the net. As to age, it appears to occur from the age of 7 to at least 50 or 60. Some people are sick, others are not. Some have nausea, others have not. Epigastric tenderness is "sometimes, indeed generally, present." In some there is "flatulence, aching of the body, occasional colic with diarrhoea, . . . and mucous colitis." In others there are all the symptoms of a gastric or duodenal ulcer. And all these various and diverse symptoms are attributed to an appendix which is not bad enough to cause any local symptoms!

Then, we are told, "exercise always makes the condition worse," yet, on reading the notes of five cases published to illustrate the clinical history, this symptom is not mentioned as occurring in any single one of them, although elsewhere in the paper stress is laid on this point as a diagnostic feature.

It is also stated that "haematemesis may occur," apparently to the extent of several pints, and Mr. Moynihan attempts to supply an explanation of how a chronic appendicitis will cause the stomach to bleed; but the explanation does not really explain it at all.

Mr. Moynihan gives no real proofs of the correctness of any of his conclusions, although in support of his views the scanty notes of five cases are published. Yet in only two of these are we told how long ago the operation of appendicectomy was performed, and as one of these patients was operated upon only last July and one in January, 1909, it is early days to speak of final results after previous years of abdominal trouble. In Cases IV and V even the immediate result of the operation is not given, nor is any subsequent history of the patients supplied, and there is no information as to the relief obtained.

But there is yet another difficulty in accepting Mr. Moynihan's opinion that latent appendicitis can cause all the various troubles enumerated, and this difficulty is not even alluded to in the paper. In the numerous patients who do have definite and typical acute attacks of appendicitis at long intervals, and are found by subsequent operation to have old-standing inflammation with concretions or other obstructions, why is it that this "appendix dyspepsia," with its vomiting, gastric pain, and haematemesis, etc., never occurs? It is common knowledge that one of the most notable clinical features of most cases of real appendicitis is the complete remission of all symptoms between the attacks, although the appendix may remain swollen and unsound, and except at these times the patient is perfectly well. Mr. Moynihan must explain this anomaly before he can expect acceptance of his opinion as to the part supposed to be played by the appendix when the symptoms themselves point to the stomach and do not suggest any trouble in the appendix itself.—I am, etc.,

London, W., Jan. 31st. ANTHONY A. BOWLBY.

## GYNAECOLOGICAL DIFFICULTIES OF THE GENERAL PRACTITIONER.

SIR,—Dr. Herman in his "Purvis Oration" refers to several sentences in the paper which I read before the British Medical Association at the recent meeting in

Belfast. These sentences are quoted without any reference to the context, and from them is deduced the most erroneous and extraordinary conclusions.

Dr. Herman writes: "Have I gone too far in saying that if this kind of teaching were accepted as scientific gynaecology no woman would be safe from the curette?" A deduction such as this is not warranted from the isolated passages quoted. It is quite inconceivable that a careful reader of the article could have summed up its meaning in such a manner.

That this care was lacking is evidenced by Dr. Herman's suggestion that my patients are subjected to "the unpleasantness of repeated local manipulations." In my paper I distinctly stated: "The only subsequent treatment—that is, after curettage—is rest in bed for one week.' I also gave my reasons for saying that after curetting further local treatment is very rarely necessary, should certainly not be undertaken without clear indications, and then only at intervals separated by months.

Having quoted the symptoms which I said "are well-known accompaniments of the disease" (endometritis) and the referred symptoms which "have a possible origin in endometritis," Dr. Herman writes: "What woman ever consults a doctor who has not some of these symptoms?"

I reply, What doctor should ever forget that "amenorrhoea, dysmenorrhoea, menorrhagia, metrorrhagia, the passage of decidual casts and blood clots" are conditions associated with an abnormal endometrium, and that when the symptoms exist in combination with some of the others I mentioned (referred symptoms), a possible cause for their occurrence may be found in a diseased endometrium?

I endeavoured to bring out in my paper that curettage should precede all gynaecological operations if general anaesthesia is necessary, when experience has shown that the condition for which the operation is undertaken is often associated with an abnormal endometrium. One of the operations mentioned by Dr. Herman is a case in point. A woman was cured of neurasthenia and backache by the performance of ventrifixation. It is not stated whether this operation were preceded by curettage. The excellence of the cure makes it probable that it was. If so, Dr. Herman should have stated the fact, and if not, I feel that all available resources for cure were not adopted in the treatment of this woman.

Finally, I am quoted as saying that "endometritis is always present before it manifests itself by symptoms." The reader must infer from the context of Dr. Herman's paper that he does not concur with this statement, although he does not say so definitely. Theoretically it is self-evident that a disease must precede its symptoms. This statement was developed by reference to abnormalities of pregnancy, abortions, etc., the result of endometritis which had never manifested itself by symptoms before the abortion or other abnormality occurred. We have all seen these cases, and have also seen full term pregnancy result after curettage for endometritis, the only symptom or sign of which was repeated abortions.—I am, etc.,

E. HASTINGS TWEEDY,
Dublin, Jan. 29th. Master, Rotunda Hospital.

## THE PITUITARY BODY.

SIR,—In the JOURNAL of December 4th, 1909, appeared a very interesting article by Dr. Bell upon the pituitary body. As to the clinical value of infundibular extract I have no observations to offer, but in one of Dr. Bell's concluding paragraphs there are some remarks which call for discussion.

After calling attention to the presence of epithelial cells in the infundibular portion, Dr. Bell goes on to remark: "It is probably these epithelial cells and those of the pars intermedia that are responsible for the pressor base." Now, this is a very natural presumption, and has suggested itself to previous observers; but Osborne and myself[1] tested the matter, and found that an extract made from the central part of the infundibular portion—devoid of epithelial elements—is much more active than one from the peripheral. Probably the external layer would be found to be inactive if it could be obtained quite free from admixture with the central portion. Schäfer and Herring[2] found this to be the case also with the substance which acts as a diuretic. Improbable as it would appear at first sight, the conclusion seems inevitable that it is the nervous portion proper which contains the substance or substances having such pronounced pharmacodynamical properties different from those possessed by other nervous tissues.

This same paragraph of Dr. Bell's communication concludes: "For it has already been shown by Osborne and Vincent that extracts made from ordinary nervous tissue . . . rarely have any effect on the blood pressure, but that if there be any it is a depressor one." There are surely a good many steps in the argument left out. At any rate, this is a curious way of stating that we found extracts of nervous tissues to have a regular and marked depressor effect. The implication is that pressor effects are very significant, while depressor effects are not so. This is probably the correct view, but it is not universally, nor indeed very generally, accepted. Working in conjunction with pupils and others I have shown that probably all animal tissues contain a substance which, when injected into the circulation of a living animal, lowers the blood pressure. What this substance is has not yet been ascertained, although Popielski has recently given it a name, "vaso-dilatine."

Gautrelet[3] adopts the naïve attitude that "les différentes glandes hypotensives" have a common active principle, and that this is choline. Now it has been abundantly proved that the chief depressor principle in brain extracts is not choline, for it possesses different physiological properties, and that the tests employed to detect choline were valueless.[4] Notwithstanding this, Gautrelet says:

> Le rôle de la choline nous semble donc capital dans l'organisme; elle répond à la définition de l'hormone telle que la conçoivent Bayliss et Starling. Nous considerons volontiers le système des glandes à choline (cholinogène) comme antagoniste du système des glandes adrénaline (chromaffine); de la mise en jeu des deux systèmes dépend la régulation de la pression sanguine.
>
> La présence commune de la choline dans un certain nombre de glandes explique aussi les synergies qu'ont observées les auteurs entre elles.

Even if the action of tissue extracts were in reality due to choline, there would be no grounds for such an assumption as is here put forward. Gautrelet would not, I imagine, suggest that because a substance which lowers the blood pressure can be extracted from nervous tissues it is one of the functions of the nervous system to manufacture this substance as an internal secretion. Why, then, should a similar hypothesis be tenable in the case of other tissues and glands?

But how stands the matter when we find that an organ or tissue yields to extracts a substance which raises the blood pressure? Such a pressor effect being exceptional (applying only, in fact, so far as we know, to the chromophil tissues and to the peculiar nervous tissue in the infundibular portion of the pituitary) deserves more attention than the common depressor effects of extracts of tissues generally. And this consideration, perhaps, justifies to some extent the form in which Dr. Bell quotes the results of Osborne and myself. But we must not be too dogmatic. There are observers who deny an "internal secretion" to the chromophil tissues, and it is not yet absolutely proved that the pharmacologically active substance of the pituitary is an internal secretion, and is normally passed into the circulation to minister to the needs of the economy, though the recent work of Schäfer and Herring lends very strong support to this hypothesis.—I am, etc.,

Winnipeg, Jan. 10th. SWALE VINCENT.

## THE TREATMENT OF CHRONIC DUODENAL ULCER.

SIR,—In answer to Mr. Deanesly's letter in the BRITISH MEDICAL JOURNAL of January 29th, he will, I hope, allow me to point out that—

1. The 5 cases of duodenal ulcer which I quoted in the paper he refers to were proved by operation to be what I called them, cases of duodenal ulcer. Also that by describing them, as I did, under the heading "Results

[1] BRITISH MEDICAL JOURNAL, March 3rd, 1900.

[2] *Phil. Trans*, 1906.

[3] C. R., No. 11, T. cxlviii, 1909, p. 995.

[4] Osborne and Vincent, *Journ. of Physiol.*, vol. xxv; Vincent and Cramer, ibid., vol. xxx; Vincent and Sheen, ibid., vol. xxix; W. Webster, *Bio. Chem. Journ.*, vol. iv, 1909.

of Operation, especially of the Posterior No-loop Variety," short-circuiting was, I thought, clearly implied. How the ulcers themselves were dealt with, or what their relation to the pyloric area, I cannot say.

2. I was careful to state that I should call none of my cases cured till at least three years had elapsed. Hence to publish, before the end of that period, results as to relative permanency of benefit would be useless. The interim results, favourable and the reverse, of the serum and proteid treatment as applied by myself and independent workers will appear in due course.

3. The statement that "the method is not described with sufficient detail to enable any one to give it a fair trial" is not quite accurate, as the following facts show:

(*a*) It is described in detail in the *Lancet* of February 15th, 1908, and in a paper read at Sheffield in July of that year published in the BRITISH MEDICAL JOURNAL in the autumn (October 10th, 1908, p. 1080).

(*b*) I have in front of me a list of 96 medical men from various parts of the country who, after reading these papers, have either written to ask where the serum could be obtained or ordered it direct, and I am still constantly receiving inquiries. The greater number have not thought it necessary to ask for further information than that already detailed.

(*c*) In ten months in the year 1908 one firm of chemists alone supplied 586 separate orders for 55,000 c.cm. of the serum, though not exclusively for gastric and duodenal cases.

If Mr. Deanesly finds the information in the papers referred to insufficient, I will gladly give him any further details he desires. If he will undertake the treatment of a consecutive series of cases he will be able to satisfy himself as to immediate results. This course, in common with many of his colleagues, once equally sceptical, he will find more convincing than waiting for the published results of a method the ultimate value of which is still *sub judice*. With the steadily increasing number of observers who, after trial, have reported favourably of a treatment for which I have made no extravagant claims, I am more than satisfied.

Mr. Deanesly's observation that gastro-enterostomy should be reserved for cases in which the ulcer is close to the pyloric sphincter is of the greatest interest. If other surgeons, with experience equally large, can confirm this its value is greater still. I fully endorse his remarks on the advantage, in diagnosis, of inspection over inference. It is often said that inferential diagnosis of the existence of open ulcer is easy. Personally, I find it sometimes most difficult.

Mr. Deanesly's letter, courteous in tone as it is, rather misses, if I may say so, the point of my contribution to the debate on Mr. Moynihan's masterly address. To have come across a few cases of operative failure in no way justifies antagonism to all surgical measures in cases of ulcer. Far from it. In suitable cases, and, of course, in certain emergencies, the value of operation is often admittedly high. My object was to suggest that recognition of this need not blind us to the fact that even uniform success in treating symptoms is not necessarily the last word in eradication of the disease, and that a first-hand knowledge of all the methods available is desirable before giving rein to dogma.—I am, etc,

London, W., Jan. 29th. E. C. HORT.

## CALCIUM IN THE TREATMENT OF EPILEPSY.

SIR,—I read your article in the issue of January 29th, p. 280, on the treatment of epilepsy by the administration of calcium salts with some slight sense of humiliation, for the writer failed to mention the work done by any of his own countrymen. I do not pretend to say that their work is worthy of special mention, but a passing reference would not have been out of place, since some of it appeared in your own columns.

Although it may not be exactly modest, I am compelled to begin with myself in order to be chronologically accurate.

In a paper read before the Royal Society of Medicine in the early summer of 1908, on the relationship of the calcium metabolism to menstruation, I stated that hystero-epilepsy could be successfully treated by the administration of calcium lactate, for, as I showed, the attacks are due to an excessive fall in the calcium content of the blood at the commencement of menstruation. This paper was published in the *Transactions* of the Royal Society of Medicine, July, 1908; and the facts it contained were afterwards incorporated in a series of papers on The Physiology of the Female Genital Organs, by Hick and myself, that appeared in the BRITISH MEDICAL JOURNAL in February and March of last year.

Personally, of course, I do not see cases of ordinary epilepsy, but I should like to call attention to a striking paper by Arthur R. Littlejohn, of the Hanwell Asylum, on the treatment of epilepsy by calcium lactate, published in the *Lancet* of May 15th, 1909. In this paper the author illustrates the remarkable efficacy of this salt of calcium in the treatment of epilepsy. Further, he brought out a point of great interest to me, namely, that even under treatment the progress of the case may undergo a relapse during the menstrual periods. This is further evidence in support of my theory of the close connexion between menstruation and the calcium metabolism.

I do not know who was the first to suggest the use of calcium salts in epilepsy, but I must make some claim to having quite independently used, nearly three years ago, and advocated calcium lactate in the treatment of hystero-epilepsy, and I did so as a direct and logical conclusion drawn from my experimental work into the nature of the menstrual function.—I am, etc.,

Liverpool, Feb. 2nd. W. BLAIR BELL.

## CARBON DIOXIDE SNOW IN DERMATOLOGY.

SIR,—With reference to the use of carbon dioxide snow in the treatment of moles, etc., I have found an ordinary leather tobacco pouch with a running noose very useful to catch the snow in. The pouch is tied on to the nozzle. I use chamois gloves to handle. I think it is preferable for the small cylinder to be kept in an inclined position, with nozzle downwards, on a cheap wooden stand which can be readily made by any carpenter. As to the applicators, mine are made of German silver after the design of Dr. Richard Sutton, of Kansas City, to whom I am indebted for details as to them.

May I point out that Dr. Allen Pusey of Chicago suggested the use of carbon dioxide as a therapeutic agent in 1905, and the credit of having brought this valuable method into practical use belongs to him? The results of his work in this direction were embodied in a paper read before the Pittsburg Academy of Medicine in 1908.

I have used liquid air, and with benefit, but when one compares the readiness with which one can obtain carbon dioxide, and its cheapness, there appears to be no doubt that the latter body will supersede the former in practice. —I am, etc.,

London, W., Jan. 29th. GEORGE PERNET, M.D.

## GENERAL PRACTITIONERS AND POOR LAW REFORM.

SIR,—If, as is no doubt the case, Dr. Greenwood's letter (JOURNAL, January 29th, p. 291) expresses the point of view of Poor Law medical officers in regard to the above subject, it certainly is in opposition to the interests of very many other general practitioners. Your article, on the other hand, gives with excellent impartiality the true issues involved and indicates the just solution.

Many of us have long felt strongly that a grave injustice to general practitioners was committed when the present system of public vaccination was instituted, under which certain medical men are paid by the State to vaccinate our patients free of charge, and thereby introduced to the families to which these patients belong. I do not suggest that the privilege is often abused, but that it lends itself to abuse is obvious.

There can be little doubt that the establishment of a public medical service would have the result of greatly enlarging the class which habitually obtained free or almost free medical attendance; and if all this extra work went exclusively to the present holders of district Poor Law appointments, who would be the losers? Obviously, every general practitioner not holding such an appointment, whose income depends now, in part or wholly, upon the fees of the working-class patient.

What could be more disastrous to this large body of deserving men? Is it too much to say that hundreds might be ruined, while the extra emoluments of the new service would go to swell the incomes of those for whom Dr. Greenwood speaks?

I trust general practitioners will firmly resist the desire of those holding district appointments—if they do desire this—to monopolize the work of the proposed new clinical service. For this reason I consider that *every man willing to accept the conditions offered* should have a share in the work, and that patients should have the right to choose, among such men, by whom they will be attended.—I am, etc.,

Bath, Jan. 29th. C. J. Whitby.

## PART-TIME MEDICAL OFFICERS OF HEALTH.

Sir,—The British Medical Association, in deciding that its policy should be to favour the whole-time medical officer of health, was guided by the votes given by its members at their meetings, where a very large majority were adverse to the part-time medical officer of health. Somehow or other this official has created a prejudice against himself in the minds of his brother practitioners. They look at him with mistrust and dislike, which is in many cases quite justified. If some of the part-time medical officers of health had changed places with their colleagues in the same town they would view the matter from a different point of view. It is all very well to talk about "taking the bread out of the mouths of brother practitioners," and all that sort of thing, but it is really nothing of the kind, for the more whole-time medical officers of health there are the less remain to become general practitioners and swell our already overcrowded ranks. The establishment of numerous whole-time officers, such as medical officers of health, school medical officers, and such like, are all for the benefit of the profession at large in creating openings to divert newly qualified men from the ranks of the general practitioner.

To be a part-time medical officer of health is neither good for the medical officer of health himself, his brother practitioners, nor the general public. In the first place, he is bound to offend some of his patients who own property if he does his duty conscientiously. I myself once had a man stop me in the street, put his fist to my face, and dare me to come and inspect his property again! This man was hardly likely to call in my services as a general practitioner! Consequently he takes little interest in his work, and does just enough to justify his salary and no more. Can one blame him? I think not.

His brother practitioners, unless he be a man of wonderful tact and disinterestedness, having to notify all cases of infectious diseases to him, view him with suspicion, and object to his going, as he often does, to see their cases and confirm their diagnoses. In many cases an indiscreet remark has been caught up by the patient or his friends and construed as a reflection on the medical attendant. The part-time medical officer of health, having to report to his sanitary authority about other practitioners' patients, is given, in the eyes of the public, a superiority which he ought not to have. On the other hand, when the part-time medical officer of health is a practitioner in the town, he is often diffident in going to make full inquiries in cases attended by other practitioners. An independent full-time medical officer of health would be able to do this without creating any bad feeling. The salary he often accepts—a miserable £15 or £20 a year—tends to lower the value of medical services in the eyes of the public. They will pay their clerk £80 or £100 a year for doing far less work than their medical officer of health.

It is not good for the public, because they often think they see a prejudice in the action of the part-time medical officer of health. They think he favours one person because he happens to be a patient. A feeling of mistrust and want of confidence in sanitary measures is engendered. Moreover, influences are often brought to bear on a local part-time medical officer of health, and he is induced to support a certain party on the council or sanitary authority simply because they are his personal friends, or, perhaps, because another medical man, whom he does not like, is on the other side. It is needless to say that the medical officer of health, owing simply to his official position, can make or mar any project to the discomfiture of his brother practitioners who are not medical officers of health.

There is no doubt that the days of the part-time medical officer of health have gone by. I am surprised there should be any in our Association who have the temerity to advocate such an out-of-date arrangement.—I am, etc.,

Arthur E. Larking, M.D., D.P.H.

Buckingham, Jan. 29th.

Sir,—We enclose a copy of a circular letter which has been, this week, sent to every medical officer of health in England, Wales, and Scotland.

The response has been very striking and a strong provisional committee of over one hundred medical officers of health has already been formed.

As obviously the fullest expression of opinion is desirable, we beg the hospitality of your columns in order that we may invite any medical officer of health who is willing to respond but has not yet done so, to communicate with us at once.

We shall be pleased to send a copy to any person interested, or to any medical officer of health who, through inadvertence, may not have received one.

The circular has not been issued in any spirit of hostility to the British Medical Association, but in the hope that the organization of deeply felt, though necessarily scattered, opinion may assist the Society of Medical Officers of Health in arriving at a decision, and may induce the British Medical Association to adopt a course which will arrest the disintegrating forces activated by Minute 234.—We are, etc.,

D. A. Belilios, M.O.H., Merton.
F. G. Crookshank, M.O.H., Barnes.
Acting Secretaries to the Provisional Committee.

London, S.W., Jan. 29th.

*** The circular letter enclosed contains the following passages:

. . . Obviously it is only in the interests of the public health that the principles of this resolution can be defended, if at all.

But those who, with us, believe that the policy of the Association in this matter is opposed to the interests of the public health may properly urge the injustice which it, if persisted in, must inflict on many medical men, and the extent to which it will militate against the interests of the profession as a whole.

Whole-time, no less than part-time, officers are concerned with a policy which would confine them to the duties of their office, inasmuch as these duties have been laid down for England and Wales by the Local Government Board, and do not include those of a hospital superintendent, police surgeon, public analyst, school medical officer, or teacher of hygiene and bacteriology.

Part-time officers are vitally concerned with a policy which seeks to debar them from general practice. . . .

In England and Wales there are over eleven hundred medical officers of health who are also general practitioners.

In Scotland there are few indeed whose appointments are not contrary to the terms of Minute 234.

Should the policy of the Association prevail, for how many of these can "adequately paid posts" be created which will compensate them for the loss of practice and secondary appointments? Will there not be creation of many small posts, at salaries of two or three hundred a year, which will be filled by junior men, birds of passage, whose emoluments will be saved to local authorities by the retrenchment of clerks and assistant sanitary inspectors.'

For the rest, it is obvious that districts, "grouped for the purpose," will not be formed, inasmuch as now that every county council must appoint a whole-time medical officer of health the one great reason for "combined districts" has passed. The public health will be, in the future, best served by the retention, in the district of each local authority, of the man on the spot, whose work will be co-ordinated or controlled by the county officer, and will be none the less valuable by reason of touch with general practice, clinical experience, and local affairs. . . .

## PRISON DOCTORS AND THE HOME OFFICE.

Sir,—With the disappearance of Dr. Donkin and Dr. Helby, the pantomime of the defence of the Home Secretary by his subordinates has now reached the harlequinade stage. Dr. Mercier's topical allusions to aeroplanes or balloons and his cheap sneers at sufferings he did not himself experience would pass unnoticed by me had he not been allowed by your courtesy to furbish up an old letter of his which seems to have failed to obtain publication elsewhere some weeks ago. Whether our Journal ought to be made the receptacle of such second-hand controversial contributions is another question, especially as Dr. Mercier's only object is to try to twist the obvious meaning of a passage in a former letter of mine into something my own words specifically deny. My letter was published directly after the trial of Leigh *v.* the Home Secretary, seven weeks ago, in another paper;

it is consequently for Dr. Mercier's purpose conveniently out of the reach of your readers for reference.

I must therefore recall the fact that the "life-saving" excuse now repeatedly urged in extenuation of the Home Secretary's forcible feeding of suffrage women arose out of a question put to me by the Lord Chief Justice during the Leigh trial, and which had the effect of making the jury think (as shown by a letter of a juror to the *Times*) that this treatment of political prisoners by the Home Secretary was an ordinary piece of Good Samaritan work on the part of the medical profession, and conducted on the usual principles and responsibility of life-saving medical practice.

This mode of regarding the real facts is warmly adopted by Dr. Mercier, and he, to shield the Home Secretary, tries to put the responsibility of this disgusting business on the medical profession, just as His Majesty's Prison Commissioner Dr. Donkin also attempted to do. What are the actual facts? A political prisoner starving is ordered by the Home Secretary to be forcibly artificially fed "in order to save her life." The prison medical officer sets to work to carry out his orders. The "life-saving treatment," however, sets up vomiting, gastritis, etc. The starvation naturally gets worse. The emaciation and weakness become very alarming and then the prison medical officer refers to his chief, the Home Secretary. That functionary being at the end of his ("medical") tether cannot imagine what to do next, and only does what he ought to have done before, namely, liberates his victim from prison and lets her escape from his "life-saving" and "humanitarian" authority.

What a travesty of the genuine treatment by a medical practitioner of a patient whose life is in danger, and what a disgrace to our calling that any one with a medical education should describe such futile idiocy as life-saving professional care of a case!

But the last week has also proved the existence of a worse state of things, and one which applies directly to Dr. Archdall Reid's second letter. Dr. Reid says I have not answered a question of his. On referring to his first letter, dated January 10th, I find he asked me two questions. Of these I have replied fully in your issue of January 22nd to the principal one—namely, how suffrage women and murderers ought respectively to be treated in prison.

I did not notice that his last sentence consisted of another query on a different subject altogether—namely, whether "the medical officers of prisons, paid public officials, should allow their sympathy, or lack of sympathy, with this or that legal offence to influence their conduct towards their charges."

As I have never suggested that prison medical officers as long as they remain in the public service should do aught than obey their superiors, I do not know why Dr. Reid addressed this very ordinary academic question to me originally; but I do know that in his second letter (in your last issue) he has materially altered it, and I am pleased to answer his revised version as well.

He now includes Ministers of State, and asks, therefore, whether the Home Secretary ought "to allow his sympathy, or lack of it, etc., to influence his conduct towards his charges"—that is, the suffrage prisoners. My answer to this is that the Home Secretary stands convicted in the public press of having grossly allowed his personal feelings and views to influence his treatment of these victims of his political prejudices.

He has "allowed" political prisoners to be imprisoned in the second division, to be refused bail, to be punished twice over for the same offence, to be given sentences of hard labour for trivial offences, and, finally, when he knew that a lady of rank (Lady Constance Lytton) was a prisoner and about to be forcibly fed he discharged her from prison on a physical pretext: whereas when the same individual was sentenced as a poor mill hand (Jane Warton) he allowed her to be brutally treated and forcibly fed until she too, like Mrs. Leigh, had to be freed from his "life-saving" attentions and treatment by discharge from prison.

Dr. Reid will thus recognize that Mr. Gladstone has established a record in the manner suggested in his question, and will, I am sure, agree with me that it is most urgently necessary that we should as a profession clear ourselves of any share or responsibility in this brutally stupid and Russian treatment of political prisoners.—I am, etc.,

London, W., Jan. 31st. VICTOR HORSLEY.

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SIR,—May I be permitted to correct a misapprehension, which might give the profession an erroneous idea as to the treatment of prisoners in English prisons?

Sir Victor Horsley has evidently not been correctly informed, or he would not have said that "Mrs. Leigh was turned out into the streets of Birmingham."

On the arrival of the order for Mrs. Leigh's release inquiries were made, the result of which was that Mrs. Leigh was sent in a cab, accompanied by a wardress, to the friends in Birmingham to whom she had agreed to go, who had been asked beforehand if they would receive her, and who had consented to do so. Her only appearance in the streets of Birmingham therefore was in crossing the pavement from the cab to her friends' front door! There was nothing unusual in this procedure, which is one often adopted in particular cases—for instance, in advanced pregnancy.

I am not, and have not been, concerned in this correspondence to defend myself, but I am unwilling that an erroneous impression should prevail as to the humaneness of the authorized prison methods.—I am, etc.,

H.M. Prison, Birmingham, Jan. 29th. E. H. HELBY.

*** As it seems inadvisable to continue this correspondence, we have referred Dr. Helby's letter to Sir Victor Horsley, who writes:

"The statement I quoted was sworn to by Mrs. Leigh in court, and was not refuted by Dr. Helby or any other witness called on behalf of the Home Secretary when they were in the witness box or until now."

We cannot insert further letters on this subject, and would ask other correspondents who have addressed us to excuse the non-appearance of their letters since the matter seems now to have been sufficiently debated.

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## THE MEDICAL PARLIAMENTARY ROLL.

SIR,—Dr. Clippingdale says that the Parliament held in Dublin in May, 1689, by King James II is "not mentioned in the official list." He suggests that its absence therefrom is due to King James "having been deposed the year before." This surmise is not historically correct. Dr. Clippingdale is thinking too Britannically. It is to be remembered that Ireland and England were, as they are, wholly distinct kingdoms. Ireland was then governed—in so far as it was governed at all—by its own king and Parliament. King James may have been deposed from the crown of England by the British people. He had not been deposed from the crown of Ireland by the Irish people, who were his loyal adherents. In May, 1689, and for more than a twelvemonth afterwards, he was as much King of Ireland as he had been at any time since his accession. The Irish Parliament of 1689 was, therefore, in all respects, a complete and perfect constitutional parliament. At a later day James lost his cause and crown. The Williamite cause triumphed, and King William held a Parliament in Dublin in 1695, which annulled and voided all the Acts of James's Parliament, ordered its records to be expunged from the Statute Books and destroyed, and decreed severe penalties against any person preserving copies of them. Hence the absence of any allusion to it in the official parliamentary records.

Unless I am wrong Mr. Arthur Lynch, Member for West Clare, is a member of the medical profession, as well as being a graduate in engineering of the University of Melbourne.—I am, etc.,

Ballinalee, Edgworthstown, Jan. 31st. J. F. KEENAN.

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AT a meeting of the Royal Society of Arts on Wednesday evening next a paper on colour blindness will be read by Dr. Edridge-Green. The chair will be taken at 8 p.m. by Dr. F. W. Mott, F.R.S.

THE Edith Pechey Phipson post-graduate scholarship for the assistance of medical women will be awarded at the end of March, 1910, preferably to a woman coming from India or going to work in India. Applications for the scholarship, which this year is of the value of £40, should be addressed to the Honorary Secretary of the fund, Mrs. E. M. Salter, 33, Chepstow Villas, London, W.

# Universities and Colleges.

## UNIVERSITY OF DURHAM.

PROFESSOR SIR GEORGE HARE PHILIPSON, M.D., D.C.L., LL.D., the President of the University of Durham College of Medicine, Newcastle-upon-Tyne, has been appointed Senior Pro-Vice-Chancellor of the University of Durham, under the statutes of the University of Durham Act, 1908, for the two ensuing academic years.

## UNIVERSITY OF LIVERPOOL.

*Diploma in Public Health.*

THE Senate, at their meeting on January 26th, awarded the Diploma in Public Health to the following successful candidates in the recent examinations:

F. Brechin, M.B., Ch.B, Glasgow; K. R. Dalal, L.M. and S., Bombay, D.T.M. Liverpool; E. H. R. Harries, M.D. (State Medicine), M.B., B.S. London, M.R.C.S., L.R.C.P.; G. F. Oldershaw, M.B., Ch.B. Liverpool.

## ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary quarterly Comitia was held at the college on Thursday, January 27th, the President, Sir R. Douglas Powell, in the chair.

*Harveian Oration.*

On the nomination of the President, Dr. H. B. Donkin was elected Harveian Orator for the present year.

*Lectureships.*

On the nomination of the Council, Dr. Newton Pitt was elected Bradshaw Lecturer for the year 1910, and Dr. A. E. Boycott Milroy Lecturer for the year 1911.

*Membership.*

The following gentlemen were admitted Members of the College:

Henry Sherwood Ranken, M.B Glasg.; Christian Hugo Rippmann, M.A., M.B.Cantab.; Christopher Rolleston, M.A., M.D Oxon., L.R.C.P.; Eric Bellingham Smith, M.D.Lond.; Ernest Frederick Gordon Tucker, M.B.Lond., L.R.C.P.; Robert Stanton Woods, M.D.Lond., L.R.C.P.; Carl Ernst Lundel, M.D.Lond., L.R.C.P.

*Licences.*

The Licence of the College was granted to 59 gentlemen.

*Diplomas in Public Health.*

In conjunction with the Royal College of Surgeons, diplomas in Public Health were granted to the following gentlemen:

Devarayadoorg Venkata Giri, L.R.C.P. and S.Edin., L.F.P. and S. Glasg; Walter Leigh Mackinnon Goldie, F.R.C.S., L.R.C.P.; Arthur Henry Headley Huckle, L.R.C.P., M.R.C.S., L.S.A.; Kombur Ramaswamy Krishnaswamy Iyengar, M.B., Ch.B. Edin.; John Macpherson Johnston, M.B., Ch.B.Edin., L.R.C.P., M.R.C.S.; Jagannath Vasudev Karve, M.B., Ch.B.Edin.; James Alexander Milne, M.B., B.S.Lond., L.R.C.P., M.R.C.S.; Herbert Wilberforce Perkins, L.R.C.P., F.R.C.S.; Frederick Joseph Wilfrid Sass, L.R.C.P., M.R.C.S.; Sidney Browning Smith (Major, I.M.S.), L.R.C.P., M.R.C.S.; Edmund Fairfield Thomas, L.R.C.P., M.R.C.S., M.D.Brux., L.S.A.; Alexander Butchart MacArthur Thomson, M.B., Ch.B.Edin.

*Communications.*

The following communications were received:

1. From the Secretary of the Royal College of Surgeons, reporting proceedings of their Council on November 11th, December 9th, and January 13th last.
2. From the Registrar of the General Medical Council, dated December 17th and December 20th last.
3. From the Medico-Psychological Association of Great Britain and Ireland, on the necessity of a course of instruction and diploma in Psychiatry. After a prolonged discussion the matter was referred to the Committee of Management.
4. From the Clerk to the Privy Council: (*a*) Inviting the college to nominate a delegate to represent it at the International Congress in Physiotherapeutics to be held in Paris in March next. On the motion of the President, Dr. Lewis Jones was nominated. (*b*) Inviting the college to nominate a representative at the forthcoming International Congress in Obstetrics and Gynaecology, to be held in St. Petersburg in September next. The question was postponed to a future comitia.
5. From the Royal Sanitary Institute, inviting the college to send delegates to their Congress, to be held in Brighton in September next. It was left to the President to nominate delegates to represent the college.
6. From Mrs. Playfair, offering to the college a portrait of the late Dr. Playfair.
7. From Dr. Donald Hood, offering to the college a gold pencil case formerly belonging to the late Sir William Gull.

Both of these gifts were accepted, and thanks returned to the donors.

*Council.*

On the nomination of the Council, Dr. Edward Liveing, Dr. Donald W. C. Hood, Dr. Hector W. G. Mackenzie, and Sir James Reid were elected councillors, in the room of Sir William Allchin, Dr. T. R. Green, Dr. G. Newton Pitt, and Dr. R. Percy Smith, who retired by rotation.

*Central Midwives Board.*

On the nomination of the Council, Dr. Champneys was re-elected the representative of the college on the Central Midwives Board.

*Pathology for the Conjoint Diploma.*

Dr. Lazarus-Barlow moved:

That the President be requested to nominate a small committee to consider and report upon the teaching regulations and examinations in pathology for the Conjoint Diploma.

Dr. Andrewes seconded, and after discussion the following were nominated to serve upon the committee: Drs. Lazarus-Barlow, Andrewes, Sharkey, F. Taylor, Herringham, and Norman Moore.

*Reports.*

The following reports were received:

1. From the representative of the college on the General Medical Council on the proceedings of the Council during its sessions in November last.
2. From the committee of management, dated October 19th, 1909, recommending that the Mater Infirmorum Hospital, Belfast, be recognized by the Royal Colleges for instruction in clinical medicine and surgery in connexion with Queen's College, Belfast.
3. From the same, dated December 7th, 1909, recommending: (*a*) That the London School of Medicine for Women and the Edinburgh School of Medicine for Women be added to the list of recognized medical schools; (*b*) that the Royal Free Hospital be added to the list of recognized hospitals; (*c*) that the public health laboratories of the school of medicine of the Royal Colleges of Physicians and Surgeons of Edinburgh be added to the list of laboratories recognized for the course of instruction for the diploma in public health.

All these recommendations were adopted.

*Library.*

Books and other publications presented to the library during the past quarter were received, and thanks returned to the donors.

*Report of Examinations.*

The annual return by the examiners of the results of the examinations for the licence in the year 1909 was received.

## CONJOINT BOARD IN ENGLAND.

THE following candidates have been approved in the subjects indicated:

FIRST COLLEGE—*Part IV, Practical Pharmacy*—D. F. Borrie, S. Caplan, R. C. Clifford, G. Cock, J. Crétin, J. E. Davies, J. P. H. Davies, A. E. L. Devonald, H. W. Doll, E. P. Edwards, S. E. Elphick, L. Game, F. C. Godding, H. Harvey, A. S. Heale, J. F. Hoare, J. C. John, J. A. Lamb, E. M. Mahon, H. W. Maltby, W. E. Masters, Constance A. Mortlock-Brown, K. M. Nelson, W. L. Partridge, E. C. Peers, R. B. Pullin, C. A. Robinson, A. F. Salisbury, F. D. Saner, S. Simons, R. S. S. Statham, D. M. Stone, E. A. Sutton, D. S. Twigg, C. U. Whitney, O. E. Williams, M. M. Woods, A. K. S. Wyborn.

SECOND COLLEGE (*Anatomy and Physiology*).—W. S. Armitage, W. S. Birch, A. R. Bourgault-Ducondray, W. H. Broughton, R. G. Brown, K. B. Clarke, E. C. Cline, A. B. Danby, H. de Silva, S. O. Dolan, J. Dotto, P. Dvorkovitz, Gertrude M. Flumerfelt, H. C. Godding, J. Greene, P. D. Hamilton, F. C. Hunot, E. B. Jardine, E. L. Jones, N. M. Joshi, K. B. Kanga, N. C. Kapur, F. H. Kelly, G. B. King, G. Laurence, E. R. Longstaff, Margaret J. McEnery, K. P. Mathur, W. H. Matthews, A. G. H. Moore, Constance A. Mortlock-Brown, C. D. Pande, S. G. Papadopoulos, D. D. P. Perera, A. B. Pestonji, W. G. Reynolds, G. B. Richardson, W. B. Sanders, G. D. Sherwood, T. S. Stafford, J. S Strachan, A. R. Taylor, A. Tilbury, M. L. Treston, W. Watkins, C. A. Webster, N. T. Whitehead, M. A. K. Wood, W. Worger.

# Public Health AND POOR LAW MEDICAL SERVICES.

## AMENDED VACCINATION ORDER.

BY a General Order signed by the President of the Local Government Board on January 27th, 1910, a new form is prescribed in substitution for Form Q of the Order of 1907. This refers to the notice by the vaccination officer to the parent or other person having custody of the child with regard to the transmission of the certificate of successful vaccination, and inquiry respecting the same.

The circular to the guardians which has been sent out with the Amended Order explains that in some cases Form Q, as drafted in 1907, has been misunderstood, and has been taken to imply that the statutory declaration of conscientious objection is valid if made within seven days after the child is 4 months old. Section I of the Vaccination Act of 1907 requires that the declaration shall be made within four months, not four months and seven days, from the birth of the child.

The alteration of the text is designed to prevent future misunderstanding on this point, and to make it clear that the statutory declaration must be made *within four months*

from the birth of the child, and that the exemption certificate must be transmitted to the vaccination officer within seven days thereafter, otherwise it will not be valid. Appended is the amended form.

SCHEDULE.

FORM Q.

THE VACCINATION ACTS, 1867 TO 1898, AND THE VACCINATION ACT, 1907.

*Notice by Vaccination Officer to Parent or other Person having Custody of Child with regard to transmission of Certificate of successful Vaccination, and inquiry respecting the same.*

To.....

I hereby give you notice that on the .....day of.....19..... your Child will be four months old, and that, unless within seven days from that date I shall have received from you or from the Public Vaccinator a certificate of the successful vaccination of the said Child, or a statutory declaration made under Section 1 of the Vaccination Act, 1907, within four months from the birth of the Child, or some other legal excuse for the non-vaccination of the Child, it will be my duty to notify the case to the Public Vaccinator, who will then in due course visit the Child's home and offer to vaccinate the Child.

If, however, you should propose some other arrangement for the vaccination of the Child, I shall be glad to be informed of the same.

Dated this.....day of.....19.....

(Signed).....

*Vaccination Officer for*

.....

*Address of Vaccination Officer*.....

## DISTRICT MEDICAL OFFICERS AND SCHOOL CERTIFICATES.

DR. A. BYGOTT (M.O.H. Barking, Essex) writes: I am very interested in your remarks in reference to the above subject, but I do not agree with your conclusion: "We therefore fail to see that medical officers of the guardians can be called on to certify as suggested by the education authority." Article 205 (3) states that the certificate is to be given in every case, either to the guardians or the pauper on whom he is attending when required; this allows of certain courses of action. The guardians may require such information to be sent to them, and they may afterwards transmit it to the education authority—a course which was not suggested in this case—or the information may be given to the pauper "when required to do so"—for example, the child might be instructed to ask the doctor for it if it is determined that the child is *the pauper* referred to; but the section does not state that the requirement shall be a request by the pauper, and it would probably be satisfied by a general instruction on the part of the guardians or a request from the person responsible for the child's maintenance. In the case of a child the relief is readily granted to the person responsible for its maintenance; and I submit that such a person's request for such a certificate would be a requirement to do so satisfying the section; and that in the case of a child such a person would be *the pauper* referred to in the section. At the same time, the "when required to do so" would enable such certificates in long illnesses to be applied for periodically, provided that the parties requiring them acted reasonably. The footnote from Glen's *Poor Law* carries us only a very little way, by giving an instance in which such certificate might be applied for, but it does not exclude any others.

That such a question is asked shows how valuable it would be for all the systems of medical service provided at the public expense to be co-ordinated, so that useful information obtained in one department could be available in other departments without quibble. At the same time it demonstrates how these old orders, dating from 1847, if they are dealt with in a sensible way, are capable of disposing of many small grievances which occasionally give trouble. As a former medical officer in a district of 120,000 people I at various times gave certificates to parents in cases involving magisterial and county court investigations in which refusal would have been cruel. It is quite true that in 1847 the education authorities did not exist and the sanitary departments were in a primitive state, but the destitution authorities recognized that paupers at times would need such written information for various purposes, and it must be given to them.

A parent has a duty to send his child to school, and to provide it in certain cases with medical assistance (vide Children Act, 1908). It ought to be easy for him to obtain legal proof that he is discharging his duties.

The question of children's absence from school is a very serious one, and it is very useful for an education authority to have a satisfactory statement as to its cause, and to know that the child is under the care of a medical man, especially if the parents are in such circumstances as to need parish relief. I have every sympathy with medical men desiring to obtain an adequate reward for their labours; but I think that it would be the duty of guardians to require the giving of such certificates, and, failing compliance, the matter should be reported to the Local Government Board so as to obtain a definite ruling on this very important matter.

## COUNTY OF DURHAM VITAL STATISTICS.

UPON an estimated population at the middle of 1909 of 854,800 persons, the medical officer of health of the county of Durham, Dr. T. Eustace Hill, records a birth-rate for 1909 of 35.6 per 1,000, compared with 25.6 per 1,000 in England and Wales during the same period. The death-rate in Durham County from all causes in 1909 was 15.7 per 1,000, a reduction of nearly 2 per 1,000 upon the rate for 1908. In England and Wales the death-rate in 1909 was 14.5 per 1,000. The infantile mortality-rate in Durham County was 124 per 1,000 births in 1909 and 151 per 1,000 in 1908. In England and Wales in 1909 it was 109 per 1,000. The most satisfactory feature of the Durham vital statistics both in 1909 and in 1908 is the record of the death-rate from phthisis. In the earlier year it was 0.95 and in the later 0.91 per 1,000. In his report for 1908 Dr. Hill draws attention to the low death-rate from this disease. In two districts voluntary schemes of notification have been in force. In Jarrow, where 49 deaths occurred during 1908, giving a death-rate of 1.41 per 1,000, there were notified voluntarily only 8 cases, and in Hebburn, where 21 deaths gave a death-rate of 0.89 per 1,000, there were 26 cases notified. In Dr. Hill's opinion the experience of these two districts shows the uselessness of voluntary notification. This view is endorsed by Dr. Nicoll, the medical officer of health of Jarrow, who advocates compulsory notification, which he considers is demanded by the ordinary standpoint of common safety, and without it the disease from a sanitary point of view can only be treated in a very haphazard fashion.

## REPORTS OF MEDICAL OFFICERS OF HEALTH.

*County of Kent.*—In his first annual report to the County Council of Kent, the medical officer of health, Dr. W. J. Howarth, is able to record the very low death-rate in 1908 of 11.9 per 1,000. In no part of the county does there appear to have been excessive mortality. In the urban districts the highest death-rate was in Queenborough (14.5), and in the rural districts in Maidstone (15.7). The rate of infantile mortality was equally low. In the urban districts it was 89 per 1,000 births, and in the rural 84 per 1,000. Dr. Howarth does not advise the County Council at the present time to adopt the Notification of Births Act (1907), believing that if any benefits are to accrue from such a step it is necessary that there should be in the different districts some means of practically using the information obtained. This, he considers, is not the work of a sanitary inspector, but of some person who could give practical advice to mothers as to the rearing of infants. In the Beckenham urban district the Act has been adopted, but during 1908 only 362 births were reported to the medical officer of health, Dr. Carpenter, although 517 were registered. Dr. Carpenter has drawn up a very useful memorandum, for distribution among those having the care of infants, upon ophthalmia neonatorum, and suggests that the notification of this disease should be made compulsory. In several of the isolation hospitals in the county cases of phthisis were treated during 1908. In the Rochester hospital there were 20 cases, in Bromley 9, Sevenoaks 8, Milton and Tonbridge 6 each, and in Maidstone 5 cases. We trust that in his next report Dr. Howarth will give some details of the accommodation provided for such cases at the respective hospitals.

THE Vigilance Committee of the French Congress of Practitioners has decided that a third meeting of the doctors of France shall be held in Paris, April 7th to 10th, 1910. The two former meetings took place at Lille and Paris respectively. Among the questions proposed for discussion are the following: The law of 1902 relative to public health (to be introduced by Dr. Declercq of Lille, and Dr. Wicart of Paris); the raising of the scale of medical fees (to be introduced by Dr. Brosselle, of Le Vésinet, Seine-et-Loire); abortion from the medico-social point of view (to be introduced by Dr. Bertillon of Maisons-Lafitte, Seine-et-Oise); the illegal practice of medicine and "covering" (to be introduced by Dr. Levassert of Paris); the administrative structure of hospitals in foreign countries and in France (to be introduced by Dr. Léon Archambault of Paris); hospitals for the indigent (to be introduced by Dr. Régis of Paris); the free choice of medical attendants and benefit societies to be introduced by Dr. Bolliet of Lyons); the limitation or non-limitation of students in the medical schools (to be introduced by Dr. Tourtourat of Paris); the superior medical council (to be introduced by Dr. Lefur of Paris); medical syndicates and medical teaching (to be introduced by Dr. Lafontaine of Paris). The Secretary of the Congress is Dr. Leredde, 31, rue La Boëtie, Paris.

# The Services.

## INDIAN MEDICAL SERVICE.

### STUDY LEAVE.

REGULATIONS as to the grant of study leave to officers of the Indian Medical Service are published in the *Gazette of India*, among them being the following: Extra furloughs for the purpose of study may be granted to officers of the Indian Medical Service on the recommendation of the Director-General of the Indian Medical Service. The period of such study leave will be calculated, in the case of an officer under military leave rules, at the rate of one month for each year of pension service, and in the case of an officer under civil leave rules at the rate of one month for each year of active service, as defined in the Civil Service Regulations, up to a total in either case of twelve months in all during an officer's service. Study leave may be taken at any time, but will not be granted more than twice in the course of an officer's service. This restriction does not apply to an officer who has part of his furlough converted into study leave under Rule 8. The minimum period of study which will render an officer eligible for study leave shall be two months.

# Obituary.

## WILLIAM WARWICK WAGSTAFFE,

B.A.LOND., F.R.C.S.ENG.,

FORMERLY SENIOR ASSISTANT SURGEON AND LECTURER ON ANATOMY, ST. THOMAS'S HOSPITAL, LONDON.

MR. WILLIAM WARWICK WAGSTAFFE, whose enforced retirement from the active practice of his profession in 1878 caused such general and sincere regret, died on January 22nd at Sevenoaks.

Born in 1843, he was the son of Mr. Wagstaffe, of Kennington, was sent to Epsom College at the time of its opening, had as schoolfellows there Sir Augustus Hemming, Sir Henry Morris, Dr. F. Taylor, and Dr. Goodhart, who, in common with many other early friends, remained in touch with him during the long period of his retirement. Wagstaffe attained an excellent position at Epsom, alternating for the first place with Mr. Marshall, for many years Resident Medical Officer at St. George's Hospital. He became prefect, and captain of both the cricket and football teams, and his love for physical exercise and proficiency in games continued until the ability to indulge in them was taken from him.

After leaving school, Wagstaffe worked at home for two years, attending lectures by Professors Tyndall and Hoffman at the School of Mines, and also at King's College, and in 1861 he obtained a first class in the examination for the B.A. of the University of London. He entered at St. Thomas's Hospital in the same year, obtaining scholarships in classics and mathematics, natural science, and modern languages. Throughout his subsequent course he kept the first position in the school and maintained himself without any further expense to his parents. He became a Member of the Royal College of Surgeons in 1864, and proceeded to the Fellowship in 1868. At the University of London he obtained honours in the Preliminary Scientific and First M.B. Examination, but he early undertook so much work in his hospital and school that he was never able to complete his Bachelor of Medicine examinations.

On qualification he became House-Surgeon to the hospital, and then, following the time-honoured course, Surgical Registrar and Demonstrator of Anatomy. In 1871 he succeeded Mr. John Croft as Resident Assistant Surgeon, and in that position moved to the new hospital, while, on the retirement of his most trusted friend and adviser, Mr. Le Gros Clark, in 1874, he was appointed Assistant Surgeon.

In 1868 Sir John Simon gave him the post of Medical Officer under the Privy Council, which he held as a summer appointment until 1870 inclusive. Then the full appointment was offered; but, although the salary amounted to some £1,000 a year, Wagstaffe preferred to take up the post of Resident Assistant Surgeon at St. Thomas's and start upon a purely surgical career. He was appointed Lecturer on Anatomy in the Medical School, in conjunction with Francis Mason; a member of the Board of Examiners in Anatomy and Physiology at the Royal College of Surgeons in 1878; and in 1875 Surgical Secretary to the Pathological Society of London, holding office during the presidencies of Sir William Jenner, Mr. George Pollock, and Dr. Charles Murchison.

In 1878 a sudden breakdown in health necessitated a period of rest abroad, and to the great regret of his colleagues and the hospital authorities, who kept his appointment open for a period of three years, he was never able to return to active work.

Wagstaffe's progress in the profession was rapid. He had acquired and held with much credit to himself various important offices at a comparatively early period in his career, and also laid the foundation of a successful surgical practice which was already becoming remunerative, when he was struck down by an obscure nervous malady, which slowly but steadily removed from him all power of physical activity. His sympathies were wide, including as they did surgery, anatomy, morbid anatomy, and some problems of the public health. Beyond these his early training had specially fitted him for the examinership in arts, which he held from the year 1875 at Apothecaries' Hall.

As a surgeon he belonged to the progressive school, and he worked at some of the subjects which have since come prominently forward, such as the surgical treatment of intestinal obstruction. Thus he was an early advocate of the direct reduction of intussusceptions, and himself performed the operation. His judgement and technical powers were very good, and had circumstances permitted his taking part in the great advances then about to occur in practical surgery there is no doubt that he would have won a leading position. In the out-patient department his powers as a diagnostician and teacher were much appreciated; but the prominent feature of his work was the application of his anatomical knowledge to the study of morbid anatomy, which at that period was at the height of its popularity as a means of elucidating the problems of pathology.

In the anatomical department his efforts were especially directed to the practical application of the science: he was also a good draughtsman, and took much pleasure in lecturing on such subjects as the muscles of expression or the outlines of the human body. He was lucid and fluent as a lecturer or demonstrator, holding the attention of his class, which was always orderly and well behaved at a time when the lecture room occasionally tended to degenerate into the bear garden. He wrote a work on *Human Osteology* in which are embodied a number of original observations on the mechanics of the human frame; also a student's guide book, the object of which was to make the subject of human mechanics more attractive.

Wagstaffe's first papers were on human anatomy and animal physics (*Journal of Anatomy and Physiology; St. Thomas's Hospital Reports*); the later ones dealt with surgery and pathology, and appeared in the *Transactions of the Pathological Society*, the *St. Thomas's Hospital Reports*, and the medical journals. His energy and determination of purpose are well illustrated by the fact that when disqualified by illness from practical work he busied himself for some years in writing reviews for the BRITISH MEDICAL JOURNAL, and other medical journals; he translated Heiberg's *Atlas of Cutaneous Nerve Areas*, and edited Le Gros Clark's *Outlines of Surgery*, and the third edition of Mayne's *Medical Vocabulary*.

Meanwhile he retained an active interest in all the advances of surgical science; even to the end he was well versed in what was going on, and with what may be called the family life of his old school he kept himself as conversant as if he had still been present there. Thus, although outside the current of his profession, he maintained relations of real friendship with his old associates, and they visited him with pleasure and profit. Indeed, no more striking lesson of resignation to a hard lot, combined with the power and determination to make the best and brightest of it, can be conceived than the life of Wagstaffe during the past twenty years. No word of complaint left his lips, and he remained the genial kindly spirit his friends had known, physically incapacitated, but mentally as bright and active as ever.

Mr. Wagstaffe married a daughter of the late Mr. F. W. Tetley, of Leeds, who survives him, and has left one son, now engaged in the study of his father's profession at St. Thomas's Hospital.

G. H. M.

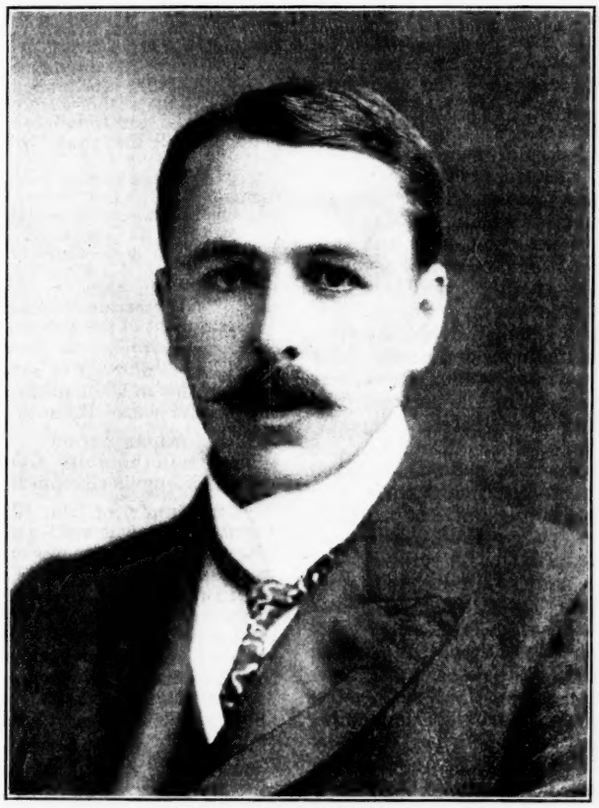
## WILLIAM ILBERT HANCOCK, F.R.C.S.,

ASSISTANT SURGEON, ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS).

IT is with sincere regret that we record the death of one of the younger members of the ophthalmic speciality in London.

William Ilbert Hancock was one of a family of ten brothers. He was born at Wiveliscombe in Somersetshire in 1873. He and his brothers were well-known football and cricket players, and their strength added to the local club made it one of the strongest in the county. He was educated at Dulwich College, and in 1891 entered as a student at Guy's Hospital. Here he at once took a prominent part and speedily found a place in the lawn tennis team, and played in the cup ties for 1891–1894; in 1892 he was captain of the club. He was one of the best cricketers at the hospital, but he shone most conspicuously in the Rugby football team, and was its captain in 1893–4. He played for his county in lawn tennis, cricket, and football, and it is practically certain that he would have gained international honours in football (as more than one of his brothers did) had it not been for an accident to his knee.

He became M.R.C.S. and L.R.C.P. in 1896. He had previously passed the First Fellowship Examination of the Royal College of Surgeons of England, and became a Fellow in 1898. He soon showed a liking for ophthalmic work, and was for a long time well known as a Chief Clinical Assistant at Moorfields. He also worked for a time as a Clinical Assistant at the Royal Westminster Ophthalmic Hospital. At the time of his death, at the early age of 36, he was Assistant Surgeon to the Royal London Ophthalmic Hospital, Moorfields, and Ophthalmic Surgeon to the East London Hospital for Children and to the Bolingbroke Hospital. He had recently resigned his position as Senior Assistant Surgeon and Pathologist to the Central London Ophthalmic Hospital.



WILLIAM ILBERT HANCOCK.

*Photograph by London Stereoscopic Company.*

Although he was a member of the staff at Moorfields for only nine months, he had even in that time made his mark both as a teacher and an operator. His classes were always well attended, and he possessed not only the knowledge but also the ability to impart it to others; while a more genial and loyal colleague could not well be imagined. He worked for the love of it, and his courtesy and kindness to his patients, and especially to children, made him beloved of all. He was a most accomplished operator, and, had he lived, would doubtless have taken a very prominent place in the profession. In 1899 he married Miss Margaret Hay Sweet Escott, and leaves a widow and four children to mourn his loss.

For about eighteen months he had had vague abdominal symptoms; in December last they became more acute, and he took a rest of four weeks in bed, and appeared better, but acute symptoms developed, which rendered an operation for appendicitis necessary; this was successfully performed on January 21st. He made an excellent recovery, and was doing quite well until January 25th; on the following day he died from pulmonary embolism and thrombosis.

His loss will be severely felt by all who knew him. Owing to his retiring disposition, few beyond his close personal friends understood his worth. He was a man utterly incapable of doing a mean act or of harbouring an unkind thought, while nothing would induce him to push himself forward at the expense of any one; he would far prefer to stand aside and let a man be thought more worthy than himself to take a prize or appointment he wanted rather than enter into competition. His sterling qualities when known, however, carried him forwards where his modesty and reserve would have left him behind. To the outside world his good works and deeds were never known, and only his most intimate friends were acquainted with many acts of kindness and the good service he so frequently rendered to those in need of it. His influence for good was at once felt on the staff of any hospital he served: he was scrupulously upright, and was a strong man in every way—mentally, morally, and physically. To few people is it given to endear himself to his friends as he did, and many there will be who will deem his loss irreparable.

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IT is once again our sad duty to record the death of a medical man in the prime of life, the cause of death being one of the accidents which may befall any one in extensive practice. Dr. EVAN THOMAS, of Newbridge, South Wales, died on January 15th from septicaemia contracted while making a *post-mortem* examination on January 8th. He was educated at University College, Aberystwyth, and afterwards at University College, London. He held the diplomas of the Conjoint Board, and also the degree of M.D., B.S.Lond. While at University College he was Resident Obstetric Assistant to Dr. Spencer, and afterwards resident at Highgate Infirmary and Hanwell. He started practice at St. Margaret's, but a large colliery appointment becoming vacant he applied for and obtained it, and held this post until his premature death, that of the Celynen Colliery at Newbridge. A singularly lovable and conscientious man, he was very reserved and diffident in giving his opinions, which those who knew him valued very highly. He was one of the best examples of the colliery doctor, thoroughly up in his work, very conscientious, and most sympathetic and kind in his manner. He was buried at his birthplace, St. Dogwael's, Cardigan, where a large concourse came to pay their last tribute of respect, the colliery he attended sending eight representatives to act as bearers. He leaves a wife and two young children to mourn his loss.

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Dr. JAMES NIMMO PRENTICE died suddenly at his residence, Belmont, Ladybank, Fifeshire, on January 24th, at the early age of 32. He graduated at the University of Glasgow in 1902, after a course of considerable distinction. Some five years ago he went to Ladybank as successor to the late Dr. Robert Laidlaw, and, by his kindly and attentive manner and his skill as a doctor, had retained and extended the practice. Last year he had a complete breakdown in health. From this he had apparently quite recovered. So late as the night of January 21st he was out visiting patients. He will be much missed in Ladybank.

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SURGEON-GENERAL CHARLES DODGSON MADDEN, C.B., Honorary Surgeon to the King, died recently at St.

Leonards-on-Sea, aged 76. He was born at Kilkenny, and educated at Trinity College, Dublin. He entered the Army Medical Service as an Assistant Surgeon, December 14th, 1854; becoming Surgeon, October 5th, 1867; Surgeon-Major, August 15th, 1868; Deputy Surgeon-General, June 28th, 1876; and Surgeon-Major-General, May 7th, 1882; retiring August 1st, 1893. He served in the Crimea in 1855, and was at the siege of Sebastopol, receiving a medal with clasp and the Turkish medal; in the Indian Mutiny campaign in 1857-9 with the Saugor Field Division (medal); and in the Abyssinian war in 1867-8, being present at the action of Arogee and the capture of Magdala (mentioned in dispatches, medal, and promoted to be Surgeon-Major "for valuable services rendered during the campaign.") For three years he was Principal Medical Officer at Madras, afterwards serving under the Government of India, at Netley, and at Malta. In 1895 he was appointed Honorary Surgeon to Queen Victoria, received the Diamond Jubilee Medal in 1897, and the King's Coronation Medal in 1902. He was in receipt of a reward for distinguished service, granted to him in 1908.

Lieutenant-Colonel Campbell Mellis Douglas, M.D., V.C., late of the Army Medical Service, died on December 31st, 1909, at the age of 69. He was appointed Assistant-Surgeon, October 1st, 1862; Surgeon, March 1st, 1873; and Surgeon-Major, April 28th, 1876; retiring from the service with the honorary rank of Brigade-Surgeon, October 1st, 1882. Dr. Douglas, together with four privates of the 24th Regiment, was awarded the Victoria Cross "for the very gallant and daring manner in which, on May 7th, 1867, they risked their lives in manning a boat and proceeding through a dangerous surf to the rescue of some of their comrades, who formed part of an expedition which had been sent to the island of Little Andaman by order of the Chief Commissioner of British Burmah, with the view of ascertaining the fate of the commander and seven of the crew of the ship *Assam Valley*, who had landed there, and were supposed to have been murdered by the natives. The officer who commanded the troops on the occasion reports: 'About an hour later in the day, Dr. Douglas, 2nd Battalion 24th Regiment, and the four privates referred to, gallantly manning the second gig, made their way through the surf almost to the shore, but, finding their boat was half filled with water, they retired. A second attempt made by Dr. Douglas and party proved successful, five of us being safely passed through the surf to the boats outside. A third and last trip got the whole of the party left on shore to the boats.' It is stated that Dr. Douglas accomplished these trips through the surf to the shore by no ordinary exertion. He stood in the bows of the boat and worked her in an intrepid and seamanlike manner, cool to a degree, as if what he was then doing was an ordinary act of everyday life. The four privates behaved in an equally cool and collected manner, rowing through the roughest surf when the slightest hesitation or want of pluck on the part of any one of them would have been attended by the gravest results. It is reported that seventeen officers and men were thus saved from what must otherwise have been a fearful risk, if not certainty, of death." The silver medal of the Royal Humane Society was also awarded to Dr. Douglas for the same service.

# Medico-Legal.

## INTRODUCTION BY VENDOR.

A., who has 800 names in his ledger within four years, sells his practice to B. Should A. introduce the whole of the 800 people, or should A. only introduce the patients who call or send for treatment during the three months' introduction?

*** It would be impossible for A. to introduce B. to all these 800 persons on his books. Some would be dead, others gone away, and a certain proportion would now be the patients of other doctors. The proper course would be to introduce B. to all patients coming under treatment during the three months of introduction, and to all those on his books whom he has reasonable grounds for regarding as his patients.

# Medico-Ethical.

*The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.*

## PUBLICATION AND ADVERTISEMENTS OF BOOKS FOR LAY PERUSAL.

Memorandum by the Central Ethical Committee.

The following queries submitted by a member of the Association have received the consideration of the Central Ethical Committee. As the answers may be of interest to other members of the profession besides the inquirer, it has been thought well that they should be published in the British Medical Journal.

Q. 1. Whether the publication of a book to the public upon a subject of general interest—such, for instance, as dietetics—by a medical man is a transgression of any definite rule of medical ethics?

A. 1. No, if the contents of the book and the circumstances attending its publication are such as to warrant the conclusion that its object is to inform the public, and not to advertise the medical practitioner.

Q. 2. Whether it is proper to sign the preface of such a book, and to add the author's address?

A. 2. There can be no objection to signing the preface, but it is undesirable that the address should be added.

Q. 3. Whether such a book, being intended to give useful information to the public, and being written in clear and simple but entirely unobjectionable language, may with propriety be advertised in the lay press?

A. 3. There is no objection to inserting in the lay press an advertisement of a simple character, of a work such as is referred to in the third question, but such advertisement must contain no extravagant claims on behalf of the book or personal advertisement of the author.

The total number of students in the twenty-one German universities in the summer session of 1909 was 51,500. Of these 4,879 were students of medicine.

The German Society of Scientists and Medical Practitioners will hold its eighty-second annual congress this year at Königsberg from September 18th to the 24th.

The dinner of the West African Medical Staff on January 26th was well attended by such past and present officers of the service as could be in London that day. The guests included Messrs. H. Read, C.M.G., A. Fiddian, and J. P. Robinson of the Colonial Office, and Dr. Kingston Fowler of the Advisory Committee. The chair was taken by Dr. William Prout, C.M.G., who, in the course of the evening, remarked that since the last occasion on which he had had the privilege of proposing the toast of "The West African Medical Staff" two of the reforms then foreshadowed had taken concrete shape—namely, the formation of an Advisory Committee at the Colonial Office on medical and sanitary questions connected with tropical Africa, and the institution of a separate sanitary branch of the West African Medical Staff. The former was the most important step in the history of medical progress in West Africa since the creation of the staff itself. It would promote continuity of work and effort, and ensure that the Secretary of State had the benefit of well-weighed and well-considered advice on the many serious problems connected with the West African colonies. Great results and material progress might be expected, and the hearty support, co-operation, and assistance of the West African Medical Staff, which was essential to make the committee's work successful, would, he felt sure, be forthcoming. He trusted that the other reforms recommended by the Departmental Committee of Inquiry would eventually be adopted in their entirety. The net outcome would then be not only a contented and efficient service, but one which would attain a position of distinction in the medical profession. The toast of "The Guests" was proposed by Dr. Strachan, who dwelt on the benefits of informal meetings between representatives of the Colonial Office and members of the staff. It was acknowledged by Mr. Read, who, after expressing his pleasure at being present, showed that tropical medicine, in which he had always taken a great interest, was now making gigantic strides. A reply also came from Dr. Fowler, who alluded briefly to the need of co-operation between the executive and scientific branches of all Governments. The formal proceedings closed with the drinking of a toast to "The Chairman" on the proposal of Dr. G. F. Darker.

# Medical News.

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, W.C., on January 21st, Dr. de Havilland Hall in the chair. The accounts for 1909 are not yet fully completed; but the statements presented to the committee showed that the general financial results of the year's working had been very satisfactory. The sickness experience had been good, showing a small margin in favour of the society. The full accounts will be presented to the members at the annual general meeting, to be held in May next. The time of the committee was principally spent in the examination of a large number of special reports on what are called the chronic cases—namely, those in which there is little or no hope of the member ever being able to resume professional work. The sick pay received by these members is usually 2 guineas a week, and therefore in valuing the liabilities of the business each of these cases has to be considered as an annuity of £109 4s. payable until age 65, or death before. The necessary reserve for these is large, and at each valuation of the society's business a considerable sum is specially ear-marked to cover this liability. Prospectuses and all further particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

A QUARTERLY court of the directors of the Society for Relief of Widows and Orphans of Medical Men was held on January 12th at 11, Chandos Street, Cavendish Square, Dr. Blandford, President, in the chair. Fourteen directors were present. Eight new members were elected, and the death of one reported. Since the last court one of the annuitants had died; she had been in receipt of grants since January, 1867; her husband had been a member for three years, and had paid in subscriptions £6 6s.; his widow received in grants the sum of £2,900, and one of her children, a cripple, is still receiving £20 a year from the Copeland Fund of the society. This instance speaks for itself as to the great advantages to be derived by joining the society. The sum of £518 was distributed in December last as a Christmas present, each widow receiving £10, each orphan £3, and each orphan on the Copeland Fund £5. The funds of the society now admit the annual grants to orphans being raised from £12 to £15 a year, and a sum of £1,238 was voted to pay the half-yearly grants. Six letters were received since the last court from widows of medical men, asking for relief, which had to be refused, as their husbands were not members of the society. Relief is only granted to the widows and orphans of life members or ordinary members of at least three years' standing. The invested funds of the society now amount to £100,071. Further particulars and application forms for membership may be obtained from the Secretary at the offices of the society, 11, Chandos Street, Cavendish Square, W The next election will be on April 13th, and forms must be sent in two clear weeks before the first Wednesday in April.

THE fourth International Congress for the Care of the Insane will be held at Berlin next October from the 3rd to the 7th. The scope of the congress will include not only all matters relating to the insane, whether scientific investigation, statistical inquiries, legal provisions, administrative measures, or educational methods, but also all questions concerned with the maintenance of the public mental health, such as, for example, social evils which tend to bring about or foster mental ill-health. Also an exhibition will be associated with the congress, which it is said will afford a complete survey of the progress made in the care of the insane during the last thirty years in Germany and other countries. Lectures explanatory of the various objects exhibited will be given. This exhibition, which has been promised the support of most of the magistracies and unions in Germany, should prove of the greatest interest. A number of distinguished authorities have consented to open discussions on the following subjects: The connexion between insanity and civilization; the growth of insanity; the care of infants in relation to epilepsy, idiocy, and the psychopathies; bacillus carriers in asylums; voluntary boarders; the polyclinic treatment of the psychoses; psychopathology in modern art and literature; the social rebirth of the insane by means of regulated work; the treatment of the insane in the army and in the field, etc. Those wishing to read papers are requested to communicate with Professor Dr. Boedeker, Fichtenhof, Schlachtensee-Berlin. General information may be obtained from Dr. Falkenberg, 79, Herzbergstr., Lichtenberg-Berlin, whilst questions concerning the exhibition should be addressed to Professor Dr. Alt, Uchtspringe (Alt-mark), Germany.

# Letters, Notes, and Answers.

**BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.**

**THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.**

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London. W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—

2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.

2630, Gerrard, BRITISH MEDICAL ASSOCIATION.

2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

## QUERIES.

O. B. asks (1) for information about the appliances for cupping the cervix uteri in cases of cervical endometritis; (2) for any references to this method of treatment.

### HEAT STROKE.

FEMUR will be much obliged if any reader will give him information concerning the bibliography of heat stroke, etc. He has consulted the following books: Clifford Allbutt, Patrick Manson, Osler, Gibson's *System*, and Sambon's article in the BRITISH MEDICAL JOURNAL for March, 1898.

### NON-OPERATIVE TREATMENT OF CANCER OF THE TONGUE.

G. T. B. has a case of cancer of the tongue (epithelioma), which has existed some eight or nine months; it apparently commenced in the gum under misfitting false teeth. The glands are not enlarged. The patient refuses all operative procedures, but would allow injections to be made. Could any members suggest treatment likely to be of service under such circumstances?

### TREATMENT OF PROLAPSUS ANI IN THE ADULT.

A.B.C. asks for advice as to treatment of an elderly patient who suffers from slight prolapsus ani after a walk of any considerable extent; it does not affect him when sitting, cycling, or at any other time. It is probably owing to thickening and redundancy of the mucous membrane. He thinks it is scarcely worth while undergoing an operation for it by knife or cautery. Would the application of chromic acid or other powerful astringent as suppository or otherwise, be likely to prove useful?

### IONIC MEDICATION, MASSAGE, AND ELECTRICITY.

M.B. AND C.M. (Madras) asks what books can be recommended to an up-country practitioner for studying ionic medication and for carrying out the treatment of paralytics by means of systematic exercise, massage, and electricity. He also inquires as to the minimum cost and the nature of the appliances necessary.

*** The most useful work on the subject of ionic medication up to the present is Leduc's *Electric Ions and their Use in Medicine*, an English translation of which is published by Rebman Limited (2s. 6d. net). The subject is also dealt with in the latest edition of Dr. Lewis Jones's *Medical Electricity* (H. K. Lewis), which is also invaluable for its authority and comprehensiveness in the whole field of electrotherapeutics. There are many handbooks on the subject of massage, such as—to mention one of the cheapest—Ellison's *Manual for Students of Massage* (H. K. Lewis, 3s. 6d. net). For ionic medication, if no electrical supply is available, or if it is alternating, the chief requisite is a galvanic battery; if a continuous supply is at hand, a switchboard has to be

employed to utilize the current for the purpose required. A 20-cell galvanic battery, with necessary electrodes, costs about £6; a switchboard costs about the same, or rather more. For the treatment of paralytics by electricity an induction coil makes the outfit more expensive—it may amount to £8 or £9. Exercise machines and appliances for massage are expensive, but the range in cost is considerable, and it would be best to forward the precise requirements to some reputable dealer in electro-medical apparatus.

ARTIFICIAL EYE FOR CHILD.

T., who says that he has had no experience of such cases, asks for advice in the fitting of an artificial eye in a child aged 5 years. The eye was removed in infancy, and the lower conjunctival sac is extremely shallow, the lids appearing to be atrophied.

*** It is very questionable whether an artificial eye should be fitted in so young a child, as sooner or later its continued presence is almost sure to produce irritation, and possible ulceration of the socket. It would probably be better to wait until the patient is old enough for the appearance to make some real difference. If it is considered necessary to fit an eye at once, it is to be feared that the case would prove a very difficult one to manage, as the socket appears to be very shallow; in all probability a special eye would have to be made, and the services of a skilled artificial eye-maker would be necessary.

INCOME TAX.

M.D. inquires as to the admissibility of certain expenses disallowed by the surveyor of taxes in accounts rendered for income tax purposes.

*** Of the expenses mentioned, the subscriptions to a medical defence association and the British Medical Association are clearly to be regarded as outlay incurred in the conduct of the practice. It is possible that under a strict reading of the law the salary and board and lodging of a locumtenent are not admissible as a deduction, on the ground that the profits of the practice are not affected by the consideration that for a time it is convenient to procure a second person to carry on the practice; on the other hand, when the employment of the locumtenent is a necessity it is not usual for the expense to be disallowed; nor where it can be shown that the locumtenent himself includes his salary in his income-tax return, or is exempt from income tax. With regard to the allowance for rent, the law provides for an allowance not exceeding two-thirds, according to the proportionate value of the part of the house used for professional purposes. The expenditure on medical books is presumably regarded by the surveyor as capital expenditure, but even so a portion of the expense must be regarded as an expense of *maintenance* of the practitioner's necessary outfit, and a reasonable sum should be allowed on this ground.

## ANSWERS.

RECURRENT MASTITIS.

DR. W. F. SOMERVILLE (Glasgow) suggests the employment of high frequency currents. The patient holds an electrode which is connected with one terminal of the apparatus, while the operator in connexion with the other terminal gently massages the affected mamma; 300 to 350 milliampères are used for five to eight minutes daily or twice daily.

PRURITUS IN GLYCOSURIA.

PATER writes: Electricity may, of course, be useful, but I have in my practice never had occasion to try it. I have always looked upon pruritus in glycosuria as quite different from ordinary pruritus, and as due to the growth of torulae or other vegetable organisms on the surfaces of the vulva, due to their being bathed with the saccharine urine, etc. I have always found it to be quickly relieved by a lotion of carbolic acid, 1 per cent., or 1½ per cent., or even stronger, with a good proportion of oxide of zinc, which acts mechanically as a protective. Weak hydrarg. bichloride lotion, or any other efficient antivegetative solution, would do also, but the former I have found quite sufficient, as a rule. Of course, the glycosuria must be treated effectively, or the relief is only temporary.

MANURIAL VALUE OF DRY EARTH FROM CLOSETS.

D.P.H.LOND. writes: If "Reform" consults Parkes and Kenwood's *Hygiene and Public Health*, 1907 edition, p. 78, he will find: "There can be but little doubt that the manure produced by the passage of the earth even five or six times through the closet has but little manurial value. The late Dr. Voelcker estimated its value as only 7s. 6d. per ton. . . . When we reflect on the large amount of valueless earth with which the compost is diluted, and the absence from it of a large proportion of the daily urine of each individual, the reasons for its low value are not far to seek."

## LETTERS, NOTES, ETC.

THE APPEAL ON BEHALF OF MR. W. H. COX.

THE REV. JOHN GARDNER-BROWN (Vicar of St. James's, Clapton) writes: Will you allow me to add a few words to what has already appeared in your columns about the case of Mr. Cox, whose sufferings in the cause of science have caused such widespread sympathy? I am not qualified to say anything on the medical aspect of the case, but, as a clergyman of nearly forty years' experience, I have witnessed much suffering, and known many brave and patient sufferers. In all that time, however, no sadder case has come before me, nor have I ever met with more heroic endurance. I do not hesitate to say that Mr. Cox presents an object lesson of the most noble character in the way he bears his terrible trial, and in this he is most wonderfully helped by his wife. They are parishioners of mine, and it gives me the greatest pleasure to support the appeal made by Sir William Treloar, which I am thankful to know is meeting with valuable support. The strain on Mr. and Mrs. Cox's resources has necessarily been very great, and they ought not to be allowed to bear this in addition to the great weight of his sufferings, unchecked by substantial and sympathetic help.

PERSISTENCE OF ITCH-MITE INFECTION IN CLOTHES.

DR. ARTHUR J. HALL (Sheffield) writes: The case recorded by Dr. J. N. Laird in the JOURNAL of January 29th, p. 261, in which reinfection of the same individual by a pair of woollen gloves worn during an attack of itch, and not again for over seven months, is of much interest, and emphasizes the importance of thorough disinfection of all the clothes in these cases. Some years ago I saw an outbreak of itch traced to old "army blankets" which had been used in the South African war. It occurred amongst a party of boys who were camping out in Derbyshire during the summer holidays, and had bought old army blankets for use in the tents. In this connexion it is an interesting fact that the South African war has amongst its numerous remote effects introduced scabies widespread amongst communities up to that time almost exempt. This is certainly true of Sheffield, and, I believe, of other large centres in the North Midlands. During the decade 1890-1900 the average number of cases of scabies attending at the Skin Department of the Sheffield Royal Hospital was very small—in fact, it was comparatively a rare disease. With the advent of the war in 1900 the number of cases rose enormously, and, although I am unable to give exact figures here, yet I believe the numbers have kept about as high ever since. It was probably introduced by the calling up of militia regiments whose units came from districts in which scabies is prevalent. These regiments were stationed in large centres vacated by the regular troops. Dr. Laird's letter reminds me also of another point, namely, reinfection by clothes in other contagious skin diseases, for example, staphylococcic folliculitis. I saw an example of this in a medical man who, some years previously, I had seen suffering from a very severe outbreak of boils on the neck. He was at that time wearing regularly a long light covert coat. After his illness this was put away and was never worn again until four years later, when he put it on to go into the country for the day. As the weather was cold he had the coat collar turned up most of the day. Next day he felt some soreness at the back of the neck, and soon after a crop of superficial boils appeared. As he had never suffered from anything of the kind since his previous attack four years before, the appearance of this second attack reminded him of the last time he had worn this overcoat. He therefore discarded it entirely, and since then, about six years ago, has never had another attack. That the old coat collar was the source of infection seems highly probable.

THE SERUM TREATMENT OF GASTRIC AND DUODENAL ULCER.

DR. E. C. HORT (London, W.) writes: I receive so many letters from medical men asking for information on this subject, that I shall be much obliged if you could find space for this note: (1) Sterile normal horse serum, for administration by skin or mouth, can be obtained from all the leading chemists. (2) Antilytic serum—that is, normal serum with the inhibitory content artificially raised—can be obtained from Allen and Hanbury in Vere Street. (3) The dose of either serum for oral administration is 30 to 40 c.cm. daily, in divided doses of 10 c.cm., always with, or directly after, food. (4) There is no danger of anaphylactic symptoms following the use of either serum when given throughout by the mouth only.

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